

# MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXI. No. 6.  
WEEKLY.

BALTIMORE, MARCH 5, 1897.

\$4.00 A YEAR.  
SINGLE COPIES, 10 CENTS.

## Manufacturers' Record.

PUBLISHED EVERY FRIDAY BY THE  
Manufacturers' Record Publishing Co.

RICHARD H. EDMONDS, President.

OFFICE: MANUFACTURERS' RECORD BUILDING,  
BALTIMORE.

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NEW ENGLAND OFFICE—John Hancock Building,  
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BALTIMORE, MARCH 5, 1897.

### Freedom in Banking.

In an interview with Mr. Thos. P. Grasty, of the Manufacturers' Record's staff, published in this issue, Mr. Stuyvesant Fish, president of the Illinois Central Railroad Co. and vice-president of the Park National Bank of New York, discusses the defects of the present national banking system and points out the lines for reform and for safe development to meet the demands of an expanding nation.

He finds that the present banking laws are unwise in that they do not consider the element of credit. "The law requiring a national bank to lock up \$120,000 in government bonds, in order to obtain the privilege of issuing \$90,000 of circulating notes," he truly says, "first diminishes the available funds of every small bank by one-quarter or more, and then teaches those operating under it, especially men new to the business, to favor loans by the banks against a pledge of securities rather than on legitimate paper given by the buyer to the seller in a commercial transaction and endorsed by the latter."

In this Mr. Fish sees the germ of the evil tendency of banks, through loans on hypothecations, to become special partners in enterprises outside the legitimate range of banking. Other weaknesses are the provision that part of the reserve of a bank may be deposited with other banks, which often places the reserve out of its control when it is most needed; the creation of congestion in the money centres, and the provision that when the reserve falls below the per cent. fixed by law the directors shall not make new loans or discounts. This, Mr. Fish says, if strictly and invariably followed, would in every crisis lead to bankruptcy of commercial depositors and of the bank itself. Official figures are quoted to show that the national banking business has been exceedingly unprofitable in recent years, and a comparison is made with the English and French systems.

As a remedy, to make the banking business more attractive to capital and

to relieve those who need money in trade and commerce, are suggested a system based upon credit instead of hypothecation, the establishment of branch banks to do away with unnecessary expenses of independent ones, and the division, if necessary, of institutions into banks of deposit and discount and banks of deposit, discount and issue.

The National system has worked better than any other in this country for the safekeeping of money of depositors and prompt payment on demand, but 1869, 1873, 1884, 1890, 1893 and 1896 have shown its limitations for those who base their operations in commerce on securing from their banks lines of discount commensurate with their average deposits. A change is needed, and must come. It may not be made entirely upon lines suggested by Mr. Fish, but he has clearly defined some of the defects, and his words should have great weight with all who desire a safe, elastic and liberal banking system.

It behooves all earnest men in the country—whether bankers, merchants, manufacturers or farmers—to read and carefully study the points made by Mr. Fish. Others have admitted that something should be done to insure a more equitable distribution of currency, but Mr. Fish is the first man of commanding influence, and standing in that inner circle whose members constitute what our friends in the country call "the money power," who has presented such a clear and candid criticism of the troubles under which our business interests are laboring, and pointed out a way of relief.

These utterances, though characterized by conservatism and caution, could not have come from the vice-president of one of the largest national banks in New York had he been other than a man of convictions and courage, and will, we believe, go farther than anything that has so far been published to awaken the financial leaders of the country to a realization of the fact that their own welfare and the welfare of the general public are mutual and interdependent. At the same time, the people of the remoter districts, where money droughts exist, will be given new hope by this assurance that they have a powerful friend at court, who sees the need of a change and is willing to champion it.

Indeed, there will be found many, heretofore wedded to the idea that the free coinage of silver would relieve this distress, who will quickly see that such a change in our banking system as Mr. Fish advocates will be much better for them and for the country, and that it is not free silver but better banking that is needed.

### Blow at Southern Commerce.

No one having the interests of Southern commerce at heart can but regret the recent decision of the Louisiana Supreme Court practically annulling the city ordinance granting the Illinois

Central Railroad authority to build docks and grain elevators on the batture at New Orleans. The decision rendered on the petition of the Louisiana Construction & Improvement Co., which holds a lease of the wharves of the city, reaches farther than the mere sequence that there can be no free wharfage within the city limits.

Until the age of railroads New Orleans commanded the trade of the great Mississippi valley. Much of its prestige was lost, however, when the upper part of the valley was tapped by the railroad lines piercing or crossing the Alleghenies. In recent years the paralleling of the Mississippi by railroads has resulted in sharp competition between Gulf ports and such places as New York and Philadelphia for the control of the Western trade. This has been intensified within the past few months by the lead which New Orleans has taken as a grain exporter and by its promise of greater traffic evidenced in the disposition to ship there, instead of Boston or other Eastern ports, cotton from Texas and the products of the great packing houses of Chicago, Kansas City, St. Louis and Omaha.

The advantage which New Orleans has gained in these respects is due to the expenditure of money and enterprise by such corporations as the Illinois Central Railroad Co. After obtaining from the city council a lease for ninety-nine years on a certain part of the water front, and being authorized to maintain there a free wharf for vessels connected with its business upon condition that improvements were to be made in the interest of commerce and industry, the company expended more than \$1,000,000 in building an elevator and wharves. No one but a mentally blind man could reason that the Stuyvesant docks were not for the benefit of the commerce of both the city and the company even did they only do away with the antiquated practice of hauling freight by rail to the outskirts of the city, transporting it by wagon to the water edge and there dumping it upon the vessels. Under such a practice New Orleans was tending to a position where the expenditure of \$250,000 to close the crevasse in Pass-a-Loutre would have been unnecessary, where it would have made no difference whether the South Pass or the Southwest Pass was improved, and where it would have been impossible to record the fact that a vessel cleared from that port laden with 18,850 bales of cotton, 134,400 bushels of corn, 29,239 pieces of oak staves, 1770 sacks of cottonseed meal and cake, 426 sacks of horns and 352 pigs of copper, aggregating \$941,104 in value and 18,045,000 pounds in weight.

The immediate effect of the decision may be estimated from the following words of General Manager J. T. Harahan, of the Illinois Central Railroad. Commenting upon the decision, he said:

The decision, as I understand it, not only affects the Stuyvesant docks, but all other

facilities which have been granted to corporations located on the batture in every city in the State, and is a very serious question when fully considered. It is certainly to be hoped that nothing now will prevent this city from securing what we conceive to be its legitimate business. We have plans all ready to extend the wharves this summer and cover them with sheds, and put up extensive buildings, in order that cargoes might be secured ahead of the arrival of vessels and taken care of until ready to be placed on board. We have also expected to arrange with importers in the principal cities of the Mississippi valley to import through New Orleans, holding their importations at this point and shipping them direct after being sold, which would make New Orleans the grand distributing port for the Mississippi valley, as it formerly was. These improvements would have furnished employment for several hundred men during the summer months, which everybody will admit is badly needed at this port. We have more than carried out our promises made to the people of New Orleans, and we are prepared to go still further if we can be secured in doing so.

Should the decision stand New Orleans is threatened with a loss not only of opportunities inherent in the improvements, but also of its present commercial prestige and which other Gulf ports would naturally share. It is sincerely hoped that some means may be found whereby the case may have a rehearing and be settled more in accordance with the opinion of dissenting justices and the lower court.

### Capital and the South.

Col. Julian S. Carr, of Raleigh, N. C., discussing the proceedings in the North Carolina legislature regarding the North Carolina Railway, said:

I am opposed to the general assembly taking steps looking towards the annulment of the lease. It would be a great mistake to do it. It would bring upon the great State of North Carolina the taint of repudiation, and we cannot afford for the State to rest under any such suspicion. As a great Commonwealth we have a credit to maintain in the markets of the world, and this we cannot do if there is a suspicion of our unwillingness to stand by our contracts.

As one of the main reasons for his opposition, he added:

It would not surprise us if the South stands today in the very shadow of very great development, and all North Carolinians ought to be bending their energies to avail ourselves of every benefit of the incoming tide, rather than, on the other hand, be found litigating among ourselves. We need not shut our eyes to the fact—capital is not coming here if our affairs are in such condition, and if capital gives us the "go-by" we will have nobody to blame but ourselves.

Without entering at all into the merits of the case involved in Colonel Carr's remarks, the Manufacturers' Record would urge Southern lawmakers, and the Southern people generally, that it is of prime importance for them to maintain and improve their credit in the world's markets, and too much emphasis cannot be laid upon Colonel Carr's statement:

"We have a credit to maintain in the markets of the world, and this we cannot do if there is a suspicion of our unwillingness to stand by our contracts."

That is the ring that must be given to the voice of the South, and Colonel Carr has done good to this whole sec-



tion in presenting the matter so clearly and forcibly. We must let the world know that a contract is a contract, and that the South and the people of the South individually will stand by the spirit and the letter of every contract in good faith.

Capital needed to give full development to all the magnificent resources of the South will not be attracted there as long as statutes inimical to the outsider in financial transactions are permitted to remain active, or as long as there is the slightest foundation for a belief that contracts made in good faith on the one part will not be fully observed on the other.

And it is not necessary for legislation against capital to be enacted. The threat of opposition is sufficient. An excellent illustration of this was given by Col. S. W. Fordyce at the commercial convention held at Little Rock, Ark., in February. He said:

In 1880 Hot Springs was laid off into town lots by the government; the people were poor, but their titles had been perfected; they had lands, but needed money to make improvements; I was urged to find it; I began to cast about, and found a concern up in Vermont who was willing to lend these people \$500,000 to make permanent improvements; the money was to be loaned for ten years at 6 per cent. interest, payable semi-annually; there was no disposition to insert ironclad foreclosure clauses; all they wanted was a safe investment. Then the legislature met—'twas '79 or '80—the mortgage law was introduced. As soon as that was done I received a letter cancelling the contract. They said they couldn't let their money go to Arkansas. I told them it was all right. They said, "that may be so; it is not so much the law we object to, but the spirit that prompts it—a spirit against capital, of which we are afraid."

Other instances might be mentioned, but the fact that capital will not venture into hostile territory, however flattering the prospect for quick and large returns may be, is so obvious that it should not even be necessary to bring it to the South's attention.

A State careless about its credit is in a worse plight than an individual who shirks his obligations, and every law against the just rights of property and creditors is a menace as well as a drawback in communities where local capital is not forthcoming for their enrichment. Colonel Carr's warning is applicable to a wider territory than North Carolina.

#### One of the Natural Results.

When the Wilson tariff bill was introduced into Congress the Manufacturers' Record, on December 8, 1893, said:

The Manufacturers' Record believes that the new tariff bill will never become a law in its present shape. It would strike a severe blow to too many industries in all sections, although it might be supposed to have been prepared mainly for the purpose of crippling the growing industrial interests of the South. But the Manufacturers' Record opposes it not simply because it would mean the crippling of many Southern interests and stay the progress of that section, but also on the broader ground of national policy. The South, with its vast mineral wealth, the development of which is just commencing, without accumulated capital, is asked to accept free iron ore, free coal, free wool, free lumber, free sulphur, free pyrites ores, and free everything which it can produce as a basis for manufactures, and for what purpose? In order that other sections, which have grown rich through years of protection, may have free coal and everything else free that will help them to maintain their industrial supremacy at the expense of the South, and keep this section, as in the past, a "drawer of water" for the rest of the country. The Manufacturers' Record believes that if the South's worst enemies had been commissioned to devise a scheme which should do this section the greatest harm, their ingenuity could scarcely have brought into existence a measure more fraught with danger to the South than this bill. The business men of the South must oppose it with

all the power that they have, and do it for self-preservation, and, if need be, regardless of political affiliations. It is not a time when party feeling can outweigh the vital interests of the individual and of the whole section. The South's future is at stake, and the people of the South must see to it that they are not sacrificed, as they will be should this bill become a law.

On the broad ground of national prosperity the Manufacturers' Record also opposes this bill. Its enactment would prove of great benefit to some industries and to some limited sections, but the country at large would suffer. Industrial development would cease to spread over every part of our land, though some few industries might be benefited. The Manufacturers' Record believes that the business interests of the country, rising above any party consideration, will compel a very great change in this bill and a readjustment on fairer lines before it can pass the House and the Senate.

The history of the coal and lumber interests alone of the South during the last few years shows that the Manufacturers' Record was correct, and that free trade on coal, lumber and other Southern products meant great disaster to this section. Fortunately the vigorous opposition started by the Manufacturers' Record against this injustice to the South resulted in a combined effort that prevented the full measure of the Wilson iniquity becoming a law. Coal was not put on the free list, but was given a tariff of forty cents instead of seventy-five cents a ton. This meagre protection saved it from ruin, but a letter in the New York Press of March 1 shows some of the results. The Press says:

The worst part of the Wilson law in the matter of the coal schedule was that nobody in America was benefited by it. In 1896, with the tariff at forty cents a ton, the value of the coal imported was \$1,243,000, upon which the government received \$486,000 in customs duties. In 1892, under the operation of the McKinley law, the amount of coal imported brought a tariff revenue of \$998,200. The government, therefore, under the reduced tariff lost \$502,000 in revenue, and coal was not cheapened to the consumer, and the only other effect, besides losing money for the government, was to put the Canadian coal-miners to work and shut down the American mines. One of the largest operators of Pennsylvania testified that the practical working of the Wilson act in Pennsylvania and West Virginia had caused more strikes, more raggedness and more general misery than he had ever seen before.

The Virginia coal operators testified that under the McKinley law they had their high-water record in business. They shipped to the New England States 1,250,000 tons and to New York city 500,000 tons. \* \* \* When the Wilson bill was under discussion the operators begged Congress not to reduce the duty.

American competition had brought the price down so that everyone was working on a narrow margin, but lots of people were working.

The duty was cut in half, practically, and a natural result followed. The operators were forced to reduce the price of labor, and the consequence was a strike. The mines were shut down for a while, the output was lessened and the operators lost 25 per cent. of their business. The miners were not the only ones who suffered, for the railroads, having to lay off coal trains for lack of business, dismissed their employees or ran them on part time, at lower wages. \* \* \*

The Pittsburgh Coal Exchange, representing \$50,000,000 of invested capital, employing about 30,000 hand toilers, stated that the bituminous coal trade in all of its past history was never so depressed as at present. Frequently foreign coal had been brought in in the form of ballast.

Such is the working of some features of the Wilson bill. Other interests have suffered just as the coal business, without profit to the country at large or to the government.

The recent rise in the Ohio river has given the Pennsylvania coal shippers an opportunity to send what is said to be the largest tow of coal boats ever consigned to New Orleans and the lower Mississippi river. It consists of fifty-six barges, carrying 1,500,000 bushels.

## THE ROOT OF THE EVIL IN OUR SYSTEM OF BANKING LAWS.

Mr. Stuyvesant Fish Points Out the Causes of Currency Famines and Suggests a Simple Remedy.

Mr. Stuyvesant Fish, president of the Illinois Central Railroad Co. and vice-president of the Park National Bank of New York, has given to Mr. Thomas P. Grasty, of the staff of the Manufacturers' Record, the following interview:

"The difficulties," said Mr. Fish, "which solvent borrowers encounter in the smaller towns of the West and South, the great discrepancy between the rates of interest charged them, when loans are at all obtainable, and those prevailing at the same time in the money centres, taken with the sudden and tremendous variations in the rates for money here in New York during the past eighteen months, demonstrate that our banking system is neither national nor rational.

"To my thinking, the lack of loanable funds and the high rates which the Western and Southern banks are forced to charge in order to exist have been the prime cause of the agitation for fiat money which has come to the surface during the past twenty-five years in cries for more greenbacks, the sub-treasury plan, the Ocala platform and "16 to 1," and from which the country has suffered and is suffering so grievously.

"The laws governing national banks originally showed in their title that they were intended to provide a currency secured by a pledge of government bonds, and were framed in order to force the old State banks, which had both capital and credit, to support the government's finances. As a war measure this may have been wise and defensible, although it was cruel and unjust to the merchants to whom those banks owed a first duty. As a scheme of banking for a great and widely scattered commercial people those laws are unwise, in that they make no use of the element of credit, which necessarily is the basis of banking. The law requiring a national bank to lock up \$120,000 in government bonds in order to obtain the privilege of issuing \$90,000 of circulating notes first diminishes the available funds of every small bank by one-quarter or more, and then teaches those operating under it, especially men new to the business, to favor loans by the banks against a pledge of securities rather than on legitimate paper given by the buyer to the seller in a commercial transaction and endorsed by the latter. Loans on hypothecation generally and naturally drift, through renewals, into making the bank a special partner in commercial, manufacturing and agricultural enterprises, if not also in street car and other railroad corporations. Witness the recent failure of the Illinois National Bank in Chicago.

"That a bank must at all times keep in reserve a certain portion of its depositor's money is, of course, necessary. But the provision of the law that part of the reserve may be deposited with other banks, in distant cities, often places the reserve out of the control of the bank when its needs are greatest. The law also creates congestion in the money centres. It also tends to leave the country banks at all times without sufficient cash to adequately care for the legitimate demands of their commercial depositors.

"The further provision that when the reserve of a bank falls below the per cent. named in the law the directors shall not make new loans or discounts, if strictly and invariably followed would, in every crisis, lead to the bankruptcy of all of the bank's commercial depositors and necessarily to that of the bank itself.

"The New York banks must keep the country banks' reserves loaned on call or in idle cash. This provision of the law, therefore, had more than any other one cause to do with the New York rate on all-money jumping, on the Venezuela scare in December, 1895, in two days, from 2 per cent. to 50 per cent., and also quite as much as the scare over the possibility of Mr. Bryan's election with the rate running up, in the last days of October, 1896, to 100 per cent. per annum and then dropping, before the close of the year, to below 2 per cent.

"That the business of the national banks, taken as a whole, has in recent years been exceedingly unprofitable is demonstrated by the tables published with the report of the Comptroller of the Currency for 1896, pp. 6 to 10, where it is shown that on December 2, 1891, 3692 banks had, of capital, surplus and undivided profits, \$1,013,694,721, and on October 6, 1896, 3676 banks had, of capital, surplus and undivided profits, \$984,883,160; shrinkage in five years, \$28,811,561.

"In these five years 166 national banks passed into the hands of receivers, while in the preceding twenty-nine years, from 1863 to 1891 inclusive, there had been but 164 failures.

"The Comptroller's report shows further that, disregarding all these absolute losses of capital, due to failures, the surviving banks earned during the year 1896 but 5 per cent. on their capital and surplus—a return obviously not attractive to capital, especially in view of the stockholders' liability.

"The Comptroller's report further shows that the capital, surplus and profits of banking institutions other than national banks increased largely in the meanwhile.

"In 1891 2572 State banks had \$289,700,000; in 1896 3708 State banks had \$335,900,000; increase, 1236 State banks, \$46,200,000.

"In 1891-2 168 loan and trust companies had \$142,414,120; in 1895-6 260 loan and trust companies had \$195,460,585; increase, 92 loan and trust companies, \$53,045,465.

"Much of this increase is doubtless due to the larger number of reports received, but the enormous profits of the great New York trust companies, which, under State laws, do an untrammelled business as banks of deposit and discount, is too well known to need comment.

"In 1861 there were associated in the New York Clearing-House fifty State banks, with a paid-in capital of \$68,900,605, the average for each bank being \$1,378,012.

"In 1872 there were in the Clearing-House sixty-one banks, national and State, with a paid-in capital of \$84,420,200. Average for each bank, \$1,382,935.

"At present there are in the Clearing-House sixty-five banks, with a capital of \$59,772,700. Average for each bank, \$919,580.

"While it is true that some of the New York banks have added to their surplus and undivided profits quite largely, those additions do not at all make up for the loss of capital above shown.

"Obviously the business of banking, as conducted by the members of the New



York Clearing-House, has not been attractive to capital during the last twenty-five years.

"When we come to consider the growth of the country in population and in wealth, and more particularly the vast and often sudden needs of individuals and of such corporations as railroad companies, insurance companies, trust companies, savings banks, industrial trusts, manufacturing enterprises, etc., these figures begin to be startling, and show that there is something wrong with the system of banking under existing laws, which interests the East as well as the West and the South.

"The reason for this withdrawal of nearly one-third of the capital which, in 1872, was invested in banking in the city of New York, is not far to seek. There have been a few, very few, failures; the rest of the money has been withdrawn by the \$1,000,000 and the \$5,000,000 at a time, because it did not pay to keep it in the business subject to the risks, taxes and restrictions of banking as now conducted. Since the first of January one of the strongest and best-established banks in this city has, for a second time, voluntarily reduced its capital by \$1,000,000.

"In 1872 the deposits in the New York Clearing-House Banks amounted to \$213,818,200. At present they are \$573,769,300.

"The report of the Comptroller of the Currency gives the individual deposits in all of the 3676 national banks (including those in New York) on October 6, 1896, as \$1,597,891,059.

"The mere magnitude of the deposits in the New York banks need cause no alarm, as it is not in large banks that depositors lose their money. By the by, while there is nothing magical in the figures \$1,000,000, it is curious to note that among the 142 failed national banks which have been entirely liquidated and receiverships finally closed, only three had a capital of that amount, or greater, and every proved claim on each of those three has been paid in full, with interest.

"That there is not a want of banking capital, or of banks, in the United States, is proved by the Comptroller's report, page 19, where he shows that there are of State banks, loan and trust companies, savings banks, private banks and national banks, 9456, with capital, surplus and undivided profits amounting to \$1,748,317,260.

"Great Britain, the banking centre of the whole world, possesses an aggregate stock of coin amounting to \$584,000,000, all of which is gold.

"The United States possess, of gold, \$672,200,000, and of silver, nominally \$631,400,000. Assuming the value of the silver dollar at fifty-three cents, this is worth \$334,642,000. Total intrinsic value of gold and silver in the United States is \$1,006,842,000.

"Thus it is clear that we do not lack metallic money, nor is there an insufficient value in that which we have.

"Exclusive of the Bank of England, there are twenty-five members of the London Clearing-House.

"On July 1, 1896, their paid-in capital amounted to \$141,404,065, and their deposits to \$1,741,210,765. Their cash in hand and at the Bank of England (which items correspond to the reserve of our banks) did not exceed \$243,121,960. That is to say, 14 per cent. of their deposits.

"This was a time of great ease in money in London, and cash reserves were larger than usual.

"While it is true that the London Joint Stock Banks have a tower of strength in the Bank of England, it is also true that they have at all times large lines of acceptances outstanding, in addition to their liabilities for deposits. This is a form of banking which our New York banks cannot indulge in, and hence a lack of the very best paper in our markets.

"The liberal, intelligent and safe laws under which the English banks work enable them to regularly earn large dividends, thereby attracting capital to the business as the needs of the community increase. All of them maintain branches. Nowhere is money safer or cheaper than in London, and the system of branch banks makes it almost equally cheap in every hamlet in Great Britain and Ireland.

"To take a single instance in France: The Credit Lyonnais, a bank of discount and deposit, with very generous powers, was founded in 1863, with \$4,000,000 of capital. It has today \$40,000,000 of paid-in capital and \$171,400,000 of deposits. It has twenty-eight branches in Paris alone, and elsewhere in France, in Algeria, London, Moscow, Constantinople, Bombay, etc., 108 more.

"Why, then, this difference between our national banks and those of other countries? Chiefly because, after thirty-four years of experience, Congress still insists upon keeping, on the national banks, the bonds and fetters which it was thought necessary to put on entirely new and utterly untried institutions with small capital, at a time when the government's credit was none of the best, and the financial outcome of the war purely problematic.

"Our national banks are not allowed to establish branches. This forces on the business of every little town in the country the cost of maintaining a separate bank, with a paid-in capital, a salaried president and cashier, a board of directors, who must be compensated in some way, an expensive banking-house, burglar-proof and fire-proof safes, tellers, clerks, officers and watchmen; in fact, all the paraphernalia and expense of a great banking institution. In every other country in the world the establishing of branch banks is not only permitted, but frequently required. In France and in England, and, I believe, generally on the Continent, it is a common practice for the banks to keep a branch open in the smaller towns on one or two days of the week only, thus enabling a traveling manager, with a small force of clerks and a bag of money, to move from town to town during the week and 'keep bank' in several places.

"While I was in London last summer the branch of Messrs. B. & Co.'s bank, in an English seaport town of some 5000 inhabitants, was robbed. It afterwards appeared that the manager was accused of having simulated a robbery in order to cover a defalcation. The sum stolen, presumably all he could lay his hands on, was £400 (\$2000). Messrs. B. & Co. are members of the London Clearing-House, and were, with that sum, doing business in that town, but on a credit which justified the deposit with them, at their head office and in their various branches, of £26,000,000 (\$130,000,000).

"Under the present national banking law the minimum of capital is \$50,000.

#### THE REMEDY.

"Without attempting, in a rambling talk of this sort, to set forth a detailed plan for a banking scheme, I do suggest and urge most vehemently that for the present national bank act there be substituted a law to encourage and regulate banking, which shall establish a safe system of banking on credit and not on hypothecation.

"That the necessary cost of banking be made as small as possible consistent with safety, by establishing branch banks and amalgamating the vast number of small concerns, with limited means and, therefore, limited and unknown credit, into large institutions.

"That from the general scheme of the new law there be removed everything looking to the hypothecation of securities. That there be substituted therefor the true and safe banking principle of credit, based on capital and on commercial paper.

"If these changes should necessitate the taking from some or all of the banks the privilege of issuing notes, well and good.

"Why shouldn't the banks be allowed to divide themselves into two classes—first, banks solely of deposit and discount, which, in fact, the majority of the large New York Clearing-House banks are today, and, second, banks of deposit, discount and issue?

"Give to each of the latter the privilege of issuing circulating notes to an amount equal to its capital and surplus, less the book value of its land and other permanent investments. As is done in Canada, provide for the constant redemption of its notes in the financial centres, and secure them by a first lien on every asset of the bank, including the stockholders' liability.

"Relieve the banks which do not issue notes from the requirement of holding 25 per cent., or any other fixed per cent., of their deposits in cash, requiring such reserve as they may keep to be kept in the bank in legal-tender money, and give to the Comptroller wider powers than he now possesses with regard to advising the directors of those banks as to the amount of reserve which they should keep from time to time.

Mr. Grasty.—"You say that the amount of circulation to be issued by a bank should be limited to its unimpaired capital and surplus, less the book value of its land and other permanent investments. Why do you withdraw the value of its land and permanent investments?"

Mr. Fish.—"Because these are not quickly realizable; they are not liquid, and, therefore, not bankable resources."

"In Canada," he continued, "we have seen the Bank of Montreal, which was organized in 1817, with a capital of about \$2,000,000, through a liberal but perfectly safe system of banking laws, grow, until today it has a paid-in capital of \$12,000,000 and a surplus of over \$6,000,000. Dividends at the rate of 10 per cent. per annum are regularly paid on the capital, to wit, \$1,200,000. In New York, although there were in 1817 banks with \$2,000,000 of capital, there is today not one with a capital exceeding \$5,000,000!"

#### A BROAD-MINDED VIEW.

"The interest," continued Mr. Fish, "which I have in one of the largest of the New York banks, much of whose business is with other national banks in every State in the Union, would preclude me, if other reasons were wanting, from advocating an unsafe or even a doubtful method of banking. What I have said, or may say, represents only my own individual opinions as a citizen having, or rather representing, varied interests in many States in the West and South. Concerning those opinions, or their expression, I have had no manner of consultation or conference with my colleagues in the bank. Indeed, it is manifest that the changes above advocated are not in its interest, except in so far as no evil can continue to happen to this country without affecting so large an institution; so also of the good to the whole country, which will surely follow the release of the national banks from the swaddling clothes in which Congress put them in 1863.

#### TIMES HAVE CHANGED.

"The newness of the national banks at that time, their individually small capital, their lack of an established credit, the inexperience of their officers and directors and the financial needs of a great war excused, if they did not also necessitate the restrictions of the law then framed. A generation of men have come and gone in the meanwhile. The great State banks, which then had capital, credit and experience, have almost without exception been since reorganized as national banks. The population of the country has more than doubled; its wealth has increased tenfold. Railroads, telegraphs and newspapers have brought the whole country into a closeness of touch then deemed impracticable. A shopkeeper in Texas or California or Florida cannot make an assignment without its being known in New York the same day. A bank failure, however small, is at once heralded in every newspaper in the land. The supervision of the banks under the present efficient Comptroller of the Currency and a long line of able predecessors has been brought near to perfection. This certainly should not be diminished, but rather strengthened in every way possible, especially on the lines laid down in Comptroller Eckels's last report, by forcing on bank directors an appreciation of their moral and legal liabilities.

"As far as the safety of the note-holder is concerned, the original law, 'An Act to provide a national currency secured by a pledge of United States bonds, and to provide for the circulation and redemption thereof,' has worked admirably, because the market price of those bonds has uniformly been higher than the price at which they were pledged.

"How it might have been if the war had terminated otherwise, or been longer protracted, or if the Federal government had not compelled the States in rebellion to repudiate their war debts, or if Mr. Bryan's party had forced the payment of interest on the United States bonds in 53-cent dollars, is a matter for conjecture.

"As far as the mere safe-keeping of the money of depositors, and its prompt payment on demand, is concerned, the national banking system has worked better than any system of which the country at large has had experience.

"As a system of banking for those engaged in commerce, who base their opera-



tions on securing from their banks lines of discount commensurate with their average deposits, the system has failed whenever seriously tested.

"It failed in 1869—Black Friday; it failed in 1873; it failed in 1884, the Marine Bank and the Metropolitan Bank going under in New York; it failed again in 1890 on the Baring's suspension in London; again in 1893, and again in 1896.

"I do not say that the national banks, or any great number of them, failed, but I do say that the reliance of merchants on their banks failed them at each of those times, and that the fault lies in the provisions of the National Bank Act as now in force.

"The time for a change has come."

#### That 39,500-Acre Tract of East Tennessee Timber Land.

Office of James I. Brooks & Co.,  
Bankers and Brokers,  
Boston, Mass., February 26.

##### Editor Manufacturers' Record:

We have seen your article in your issue of February 19 regarding the timber of the East Tennessee Lumber & Mining Co. We desire to say that the statement made was made from figures obtained in the following manner: Acres at intervals of one-half mile were staked off, the individual trees upon that acre being tagged with the enclosed tag, and the record of each tree upon that acre kept and forwarded to this office. The amount of lumber in a tree was determined by Scribner's tables, which are authority in lumber measurements throughout the United States. Our prices were taken from quotations given us by a reliable New York house, the amount of timber being graded as follows: Ones and twos, 60 per cent.; saps and common, 30 per cent.; culls, 10 per cent. Actual logging experience in the district shows that the actual percentages of firsts and seconds are more than 60 per cent. You must know that if you have a tree five feet in diameter and eighty feet high of the best lumber, that the percentage of ones and twos would run above, rather than below it. In making our measurements we measured over 11,000 trees, the diameters of which were as follows:

Between 1 and 2 feet in diameter....	6,905
Between 2 and 3 feet in diameter....	3,084
Between 3 and 4 feet in diameter....	818
Between 4 and 5 feet in diameter....	289
Between 5 and 6 feet in diameter....	67
Between 6 and 7 feet in diameter....	18
Between 7 and 8 feet in diameter....	3

Total ..... 11,184  
Average number of trees to the acre.. 98

Our measurements have been made by one whose integrity and honesty have been endorsed by such concerns as the B. & A. R. R. Co. and the engineering department of the city of Boston.

Mr. Mosher, the engineer in question, having spent all of his time as engineer, for more than fifteen years, in the employ of those two concerns, we believe that our estimates are scientifically as accurate as it is possible to make any survey on a tract of timber, other than a survey in which every tree upon the tract is actually measured, which, of course, no one would ever attempt to do. The doctrine of averages will make such a survey as we have made approximately as accurate as an entire survey, the excess of one acre being compensated by the deficit of another.

Very respectfully,

EAST TENNESSEE LUMBER & MINING CO.  
By James I. Brooks.

Note.—We trust that inasmuch as you have taken occasion to question our facts, that you will have the fairness to give this letter equal publicity.

Very respectfully,

J. I. B.

The foregoing is in reply to an editorial in the Manufacturers' Record calling attention to a prospectus of the East Tennessee Lumber & Mining Co., of Boston, in which it was claimed that the company's property of 39,500 acres in East Tennessee contains timber to

the value of \$151,243,000, and that this can be cut, sawed, shipped and sold at an expense of \$48,830,000, leaving a net profit of \$102,413,000, or nearly \$3000 an acre!

##### Literary Notes.

The widespread interest in the coming inaugural ceremonies at Washington gives timeliness and value to the article entitled "Ninety-seven Years in the White House," which forms the leading feature of Frank Leslie's Popular Monthly for March. It is written by Joanna R. Nicholls, and is profusely illustrated with portraits and interior views reproduced from new photographs. Then there is a vigorous description of the great Lincoln Inauguration, by Hon. A. Oakley Hall, who was a participant in the ceremonies.—Frank Leslie's Publishing House, New York.

Italy in the Nineteenth Century. By Elizabeth Wormeley Latimer. 436 pages. A. C. McClurg & Co., Chicago, publishers. Price \$2.50.

The period to which this work is confined will be reckoned by historians as a most remarkable epoch in the varied history of Italy. Stirring events have been crowded into this century in rapid succession. The author has brought together interesting facts, and they are told in a graphic style. An advantage enjoyed by the author besides exacting personal investigations was correspondence with persons in a position to see the important events. Besides the historical value of the book, the charming way in which the picturesque and often dramatic incidents are presented makes the work a most fascinating one. Sidelights on famous personages, based upon an intimate knowledge of the characters, form an important feature of the book. Well-executed engravings greatly enhance the merits of the work. One of these is an excellent picture of Queen Margherita, of Italy.

The Boys of Cloverbrook. A story of five boys on a farm. By Mary Barnes Beal. 1 vol., 4to, cloth, illustrated. \$1.50. Boston: Lothrop Publishing Co.

This is a bright and attractive story with just enough of the sympathetic to counterbalance the fun and of the dramatic to give zest to the action. Mrs. Beal tells the story of her five delightful boys well. Their ups and downs, their frolics and their sorrows, their mysteries and their naughtiness, make them all "human" boys, and not a boy or girl who reads but will be glad to form their acquaintance. Each one of the five will be a favorite, from Brownie the mischievous to Rudolf the picturesque; while as for their pets—Sandy and Spot and Scops, and that dear little pony Rob Roy—every one of them will become as real and familiar to the boys and girls who read of them as they were to the fun-loving boys of Cloverbrook. Through all the story runs a thread of plot, an atmosphere of sentiment and a high and healthy moral tone that give life and attractiveness to the narrative, while teaching the best of lessons regarding truth, loyalty, honor, affection and good fellowship. The book is charmingly illustrated by Etheldred B. Barry and is artistic alike in form and make-up.

## RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### Chattanooga, Rome & Columbus.

In a letter to the Manufacturers' Record Messrs. Simon Borg & Co., 20 Nassau street, New York, state that plans are now being perfected for improvements to the Chattanooga, Rome & Columbus road, but are not yet ready to be carried out. Borg & Co. bid in the road at its recent sale, and represent the present owners.

### An Important Louisiana Road.

It is announced that arrangements are completed to build the Mississippi River & LaFourche road from Donaldsonville to Thibodaux, La., by way of Napoleonville, forty-four miles. This road has been promoted by a company of which R. W. Edwards, of Lauderdale, La., is president. The road will extend through a portion of Southern Louisiana which is considered one of the most attractive parts of the State. At Donaldsonville the Mississippi river is reached, and it is stated that a line of steamers will be put on between New Orleans and Donaldsonville to connect with the railroad when the latter is completed. The contract, it is reported, has been let to R. M. Quigley & Co., of St. Louis, and it is expected to have the line ready for operation by September 1.

### A Texas Extension.

According to a report from Beaumont, Texas, there is a possibility of the Santa Fe system being extended into Eastern and Southeastern Texas. At Conroe a branch of the Gulf, Colorado & Santa Fe connects with the Texas, Louisiana & Eastern, which is completed from Conroe east to a point near the Trinity river. By extending this road to Beaumont, about fifty miles, the Santa Fe would penetrate the extensive timber lands of this part of the State and make important rail connections at Beaumont. From the latter town to Sabine Pass is but a few miles, and a further extension to this point would give the Santa Fe access to another harbor on the Gulf coast. It is reported that matters have reached a point where representatives of the company have agreed to extend the shorter line to Beaumont if its owners will sell them the road.

### To Complete a Virginia Line.

The Richmond, Petersburg & Carolina project has been revived by another proposition to purchase the right in it held by the city of Petersburg, Va., and the fact that parties have recently been over the route securing sites for depots, etc. According to a dispatch from Petersburg, the would-be purchaser is Dewitt Smith, of New York, who is represented by Gen. James Negley, of the same city. George J. Seay, chairman of the finance committee of Petersburg, has received the following offer:

"Mr. Smith agrees to organize and capitalize the road with all possible promptness, to build a standard railroad, equip it with first-class material and supply it with all needed facilities for passenger and freight business, and to erect in Petersburg a brick passenger and freight station. The principal office of the company, he proposes, is to be in Petersburg. Mr. Smith agrees, as an evidence of good faith, to deposit with the Petersburg Savings & Insurance Co., in trust, good interest-bearing securities to the value of \$20,000. He further agrees to issue to the city of Petersburg first mortgage bonds of the Richmond, Petersburg & Carolina Railroad Co. to the amount of

\$100,000, par value, which bonds shall be issued on all the property of the railroad."

As stated in the last issue of the Manufacturers' Record, the proposed road would be about sixty miles long. It was surveyed from Petersburg to a connection with the Seaboard Air Line at a point in North Carolina just over the Virginia boundary. It would be a direct competitor to the Atlantic Coast Line if built, and it is probable that the parties named are acting for a company or syndicate whose identity has not as yet been made public.

### Augusta Southern Leased.

A dispatch from Augusta, Ga., announces the lease of the Augusta Southern road to the South Carolina & Georgia. The lease is perpetual in its conditions, and practically amounts to a sale of the line. The Augusta Southern extends from Augusta to Tennille, Ga., and is eighty-four miles long. It was recently changed to a standard-gage line, and is one of the best short railroads in the South, traversing a very productive section of Georgia. It is reported that the Augusta Southern will be extended to Macon, giving the South Carolina a direct line from the central part of Georgia to Charleston. The lease will tend to make Charleston the market for considerable territory which has hitherto depended on Savannah and Augusta.

In connection with the lease the following telegram from President James U. Jackson is of interest: "Lease in perpetuity of Augusta Southern to South Carolina & Georgia was perfected yesterday and full control of property turned over. Improvements of Augusta Southern will be pushed immediately."

### Virginia Beach Line Improvements.

The improvements planned by the present owners of the Norfolk, Virginia Beach & Southern road have begun, and it is announced that they will be partly if not wholly completed by May 1. The railway is now being changed to standard gage between Norfolk and its terminus, Virginia Beach. It is to be laid with heavy rails, and it is understood that connection will be made with some of the other systems terminating at Norfolk, so that trains may be sent through to Virginia Beach without obliging the passengers to change cars at Norfolk, as is now the case. As soon as the track work is completed new rolling stock will be placed on the line.

The company is also planning to change its Norfolk terminus to Brambleton Ward and to erect a passenger station at that point. A New York syndicate, composed largely of officials of the New York Central & Hudson River Railroad, is in control of the road and the resort at Virginia Beach. The officers are as follows: Alfred Skitt, 44 Broad street, New York, president; W. H. White, Norfolk, vice-president; John Carstensen, New York, secretary and treasurer; B. P. Holland, Norfolk, superintendent. Relative to the improvements referred to, President Alfred Skitt, 3 Beaver street, New York, writes the Manufacturers' Record as follows:

"We have bought from the Carnegie Steel Co. 2100 tons of 65-pound steel rails to be used in changing our line from Norfolk to Virginia Beach to standard gage. The work is now in progress, and we hope to complete it by May 1. New passenger equipment has been ordered from the Jackson & Sharp Co., Wilmington, Del. Our line will be directly connected with the Norfolk & Western Railway. New passenger and freight stations and terminal facilities are to be erected in Norfolk."

By the connection with the Norfolk &



Western, trains can be run from any portion of this system direct to Virginia Beach, and the resort made popular with people in West Virginia and Ohio, as well as Virginia.

#### Ohio River & Charleston.

President Samuel Hunt, of the Ohio River & Charleston, announces, in a letter to the Manufacturers' Record, that work on the extension of this line from Blacksburg to Gaffney, S. C., is to begin in the near future. He adds: "It will make it possible to develop Cherokee Falls water-power, and thus offer opportunities for the location of manufacturing industries with the combined advantages of railroad transportation and water-power."

While the extension is not many miles in length, it will be one of the most important short railroads yet built in the South. The water-power to which Mr. Hunt refers has been described in the Manufacturers' Record. It is one of the finest in the South, and by the completion of the railroad, parties interested in mill projects will have excellent transportation facilities should they build here. The line will start from Blacksburg, a growing town at the junction of the main line of the Ohio River & Charleston and the Southern Railroad, and extend to Gaffney City, where an extensive cotton mill will originate considerable freight for the new line. This branch line will also pass through the extensive Bessemer iron-ore properties near Blacksburg.

#### Steel Rails for Southern Roads.

The dissolution of the steel-rail pool will probably result in an increased amount of railroad building in the South during the present year, as the low price quoted for rails enables many would-be purchasers to secure large quantities at reduced figures.

The Manufacturers' Record has already referred to the order for 50,000 tons by the Illinois Central Company. In addition to this, the following orders are also noted: Texas Midland Company, 20,000 tons; Southern Railway Co., 25,000 tons; Baltimore & Ohio Company, 58,000 tons; Missouri, Kansas & Texas Company, 10,000 tons; St. Louis & San Francisco Company, 8000 tons; Missouri Pacific Company, 6000 tons. It is also understood the Dallas (Texas) Terminal Co. is about to purchase 3000 tons.

According to advices from Texas, the order of the Texas Midland and the Dallas Terminal companies means the construction of over 130 miles of new railroad line in that State. Sometime ago the Manufacturers' Record announced that President Green, of the Texas Midland, was considering an extension of his line to Waco, and, by a combination with the Houston & Texas Central and the Galveston, La Porte & Houston roads, perfecting a system to the Gulf.

It is very probable that this road may be extended to Dallas and Waco and to a connection with the Galveston lines during the present year.

The order of the Southern Railway Co. is in line with the policy of the present management, to place this system among the finest in the country. It has during the past year relaid a large mileage with 75-pound and heavier rails, and it is understood will place a large portion of the recent order upon the main stem between Washington and Atlanta; also upon its Chattanooga and Alabama sections.

The rails for the Baltimore & Ohio will be used principally for relaying purposes, and it is understood a large quantity will be placed upon the Pennsylvania sections. The Baltimore & Ohio is using 90-pound rails on some portions of its

line in order to have a satisfactory road-bed for the heavy rolling stock which it now employs in its train service.

#### The Southwest Texas Line.

Further details regarding the Southwest Texas Railroad Co. are furnished by Vice-President William Muir, of the company, in the following letter to the Manufacturers' Record:

"Charter for the Southwest Texas Railroad, with capital stock of \$550,000, was filed with the secretary of the State of Texas at Austin, February 12th last. Among the incorporators whose names appear in the charter are William Muir, 124 Warren street, New York; Henry H. Boody, ex-president Wabash Railroad; John M. Gardner, counsel for the New York Life Insurance Co., of New York city; Col. George M. Edgerton, D. McNeill Turner and Ben S. Rodgers, of Corpus Christi, Texas; L. J. Wortham, of Austin, Texas, and Dr. James Kerr, of Washington, D. C.

"The proposed line runs from Brenham, Texas, through the counties of Washington, Colorado, Fayette, Lavaca, Victoria, Refugio, San Patricio and Nueces to Brownsville, on the Rio Grande, in Cameron county, and from Corpus Christi, on the Gulf of Mexico, through the counties of Nueces, Live Oak, McMullen, La Salle and Dimmit to Eagle Pass, on the Rio Grande, in Maverick county, a distance of 550 miles. The line from Corpus Christi to Eagle Pass will open to the market a tract of about 60,000 acres of coal.

"At a meeting of the directors, held at Austin February 11, the following officers of the company were elected for the ensuing year: Dr. James Kerr, of Washington, D. C., president; William Muir, of New York, first vice-president; Col. Geo. M. Edgerton, of Corpus Christi, vice-president and general manager; Davenant Rodger, of New York, treasurer; L. J. Wortham, of Austin, Texas, secretary; J. S. Peters, of Corpus Christi, engineer. D. Rodger, engineer of the Manhattan Construction Co., of New York, has the contract for building the line, and will commence work April 1.

"On completion of the road from Brenham to Brownsville, it is the purpose of the company to extend the line through to the City of Mexico via Tampico, giving those cities railroad connection with the large cities of the North and East 400 miles shorter than by any other route."

#### European and American Railway Service.

A comparison has been made by German commissioners of the railroads of the United States and Europe. A paper published in a recent edition of the Consular Reports shows that from their statements the railroad service of this country averages much better in most respects than that of Europe. The time of passenger trains is much faster, the stations and train service are superior, while the systems employed by most of the American companies are claimed to be much safer than in Europe. The report refers to the time made on the New York Central & Hudson River Railroad between New York and Chicago, one train averaging forty-eight and one-half miles per hour. Between Berlin and Dresden, about 112 miles, the time is nearly three hours. Between Ostend and Vienna, 821 miles, the average per hour is about twenty-nine miles per hour, it requiring sixty-five hours to travel a distance of 1892 miles. The European trains referred to are what are termed "fast express" trains, the time of ordinary passenger trains being much slower. The average time made on some of the South-

ern railways of this country is also considerably faster than that in Europe. For instance, the New York & Florida Limited Express, on the Southern system; the Atlanta Special, on the Seaboard Air Line system, and the express trains between Chicago and New Orleans, on the Illinois Central, have practically no equal in Europe outside of Great Britain, and it is doubtful if the train service in the latter country averages as well when the time of all trains is considered.

One reason of the slow train service is due, according to the report, to the quality of the locomotives used, the German locomotives especially being inferior and less powerful than those turned out by the principal American companies. It would seem, under the circumstances, as if some of the enterprising locomotive works in this country, like the Richmond, Baldwin or Schenectady, might find a market for passenger engines in Europe, and that the vessels which will probably carry over quantities of American steel rails for use on the railroads of the Old World, ought to have rolling stock also as a part of their cargoes.

#### Seaboard Air Line Bonds Refunded.

The announcement is made of an important arrangement whereby the Raleigh & Gaston Railroad will refund the 8 per cent. bond issue of \$1,000,000 at 5 per cent., and will issue \$500,000 additional in 5 per cent. bonds for improvements.

Two hundred thousand dollars of the bonds are to be used for betterments and improvements along the line of the road. Three hundred thousand dollars of them are for additional construction or extensions, and cannot be issued for at least three years without the consent of the trustee.

The fixed charges of this property, which heretofore have been \$80,000 per annum, will by the exchange of bonds be reduced to \$60,000. Last year the net earnings were \$242,000, and they have averaged for the last six years over \$200,000. The Mercantile Trust & Deposit Co. of Baltimore is trustee of the entire issue.

#### New Line of Gulf Steamers.

According to a dispatch from Albany, N. Y., the Mexican Gulf Steamship Co. of New York has been incorporated in that State, and will put on a line of vessels between Galveston, Sabine Pass, New Orleans, Mobile, Pensacola, Tampa and Key West, in the United States, and Tampico, Vera Cruz, Tuxpan, Progreso, Coatzacoalcas and Languna in Mexico. The capital stock is reported to be \$20,000. The directors are Henry P. Booth, John W. Barrett, C. P. Hogan, W. E. Bird, Jr., A. G. Smith and W. E. Evans, all of New York city. The company, it is believed, intends operating a line of coasting vessels which will ply between all the ports on the Gulf of Mexico.

#### Another Export Route.

According to advices from St. Louis, Mo., the Louisville & Nashville has made arrangements to export freight to Europe from St. Louis by way of Charleston, S. C. The rail line will be made up of the Louisville & Nashville from St. Louis to Nashville, the Nashville, Chattanooga & St. Louis to Chattanooga, the Western & Atlantic to Atlanta, the Georgia from Atlanta to Augusta and the South Carolina & Georgia to Charleston. The line will carry grain, beef products, flour and everything that goes from the West or intermediate points to Charleston for Europe.

Simpson, Spence & Young, of New

York, it is stated, will furnish the ships, which will come from the fleet of the North Atlantic Transportation Co.

#### Largest New Orleans Cargo.

Another of the largest steamships afloat has cleared from New Orleans. She is the Milwaukee, and was loaded with the largest cargo yet sent out from that port. It was estimated as equal to the bulk of 27,000 bales of cotton. The actual weight of the cargo was 18,045,000 pounds, and its aggregate value was \$941,104. In detail, the cargo consisted of the following: 18,850 bales of cotton, 134,400 bushels of corn in bulk, 29,239 pieces of oak staves, 1770 sacks of cottonseed meal and cake, 426 sacks of horns and 352 pigs of copper. The vessel drew twenty-five feet of water when loaded.

#### Railroad Notes.

J. F. Hill has been elected secretary of the Chattanooga Belt Railway Co., and C. F. Ansley, treasurer.

The sale of the Jacksonville, Tampa & Key West road has been postponed until the first Monday in April at Jacksonville, Fla.

Mr. C. C. Waller has been appointed general freight and passenger agent of the Queen Anne's Railroad Co., with office at Queenstown, Md.

J. D. Sadler has been appointed district freight agent of the Texas & Pacific Railroad Co., with headquarters at Atlanta, Ga. Mr. Sadler has been acting as contracting freight agent at New Orleans.

John J. McDonald has made arrangements with the Central of Georgia Railroad Co. to operate the Savannah & Atlantic division, which extends from Savannah to Tybee Island, a distance of sixteen miles.

As an indication of the amount of freight being secured by the Baltimore & Ohio at present, during one day recently 2541 cars were moved over the second division of the system alone. This is the section between Brunswick and Cumberland, Md.

The report of the appointment of T. W. Galleher as successor to Charles E. Ways, as general freight agent of the Baltimore & Ohio system, is confirmed. Mr. Galleher has been connected with the B. & O. since 1872, and recently has been acting as division freight agent at Pittsburgh.

The International Association of Car Accountants, which recently met at New Orleans, has elected the following officers: President, J. J. Merrill, St. Paul, Minn.; vice-president, H. G. Sleight, Terre Haute, Ind.; secretary, Geo. S. Russell, Cedar Rapids, Ia.; treasurer, J. W. Burnham, Boston; member of the executive committee, C. P. Chesebrough, St. Louis.

The Northern Central Railway Co., at its annual meeting in Baltimore, re-elected its present officers, who are: Frank Thomson, president of the Pennsylvania Railroad Co., president; John P. Green, first vice-president; Charles E. Pugh, second vice-president; S. M. Prevost, third vice-president; Stephen W. White, secretary, and S. M. Hendrix, treasurer.

The Cumberland Telephone & Telegraph Co., of Nashville, Tenn., has begun work upon an extension of its line from Memphis to Helene, Ark., to connect with the system of the Southwestern Telephone & Telegraph Co. President John E. Caldwell states that when this circuit is completed, connection will be made directly with Dallas and Galveston, Texas, from Nashville and Memphis. The company is also making an extension of about 100 miles east of Memphis.



## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

### VIEWS OF EDWARD ATKINSON.

#### On Improved Cotton Handling and What the Round Bale May Mean to the South.

Boston, Mass., February 23.

Editor Manufacturers' Record:

I have received your note calling my attention to the growing interest in the round bale of cotton. I have never altered my conviction of the immense importance of that invention, and I hope that the great change which the adoption of this bale may bring about may be speedily accomplished, not only for its own sake, but because it will be an incentive to the other methods of improvement to which I have frequently called attention—mainly improvement in ginning cotton, to the end that this country may supply itself with the medium long cotton needed for the combing processes, now largely imported from Egypt, of one and one-eighth to one and one-quarter inch staple.

I notice what seems to me a very false method on the part of the long-cotton growers, namely, an effort to get a heavy duty placed upon Egyptian cotton. Should they succeed, what would be the effect? First, the fine mills and the hosiery mills of the North would be placed at a great disadvantage in their competition with European factories in continuing fine work. It is well known that a large part of the machinery for this fine work has been and must be imported. The duties on the machinery have increased the cost of the plant and the amount of capital required. If to that disadvantage is added a tax on the cotton, the progress of the cotton manufacture toward the finer work in the New England States will be checked, if not reversed. Should a reverse come, the machinery will then be changed and put back upon medium and heavy fabrics, thereby entering into a direct competition with Southern factories on such fabrics and the lines of goods which have been slowly moving into the Southern factories. I can imagine no more serious obstruction to Southern cotton manufacturing on the lines in which its success must be mainly attained for many years to come than a policy which would stand in the way of the progress of the finer fabrics in the Northern States.

Without entering upon the vexed question whether or not the Southern or the Northern factories are to hold the strongest relative position—on which my views are well known—this much is certain, that if the Southern factories possess the advantages which are claimed on their behalf, they only need the opportunity to get their machinery at the same cost as that which is supplied to foreign mills to enable them to enter into competition with the world in the supply of the medium and coarser fabrics which constitute the greater part of the demand of the world; while their true protection to their long cotton will be the adoption of the roller gin and of methods of improving their present murderous processes, so that they may not only displace Egyptian cotton in this country, but compete with Egyptian cotton in

European markets. The capacity of Egypt is limited, and the heavy rents and taxes take up at least half the produce of the Egyptian cotton-fields. Hence, although for the first time in recorded history the Egyptians are no longer despoiled, being under the protection of British administration, they have yet a terrible disadvantage in their competition with this country in their low-priced labor, their heavy taxes and the general ignorance of the people. It would be a matter of shame to the cotton-growers of this country if, with their free land, their comparatively untaxed system of labor and their ability to emulate the best methods of preparing cotton, they cannot hold their own or excel a country which is under the great disadvantage of Egypt, having only in one respect a slight advantage in the permanent conditions of the climate during the picking season.

I look upon the introduction of the round bale as only the first step toward the supremacy of this country in all branches of cotton production up to the bale, while it may be the first step in the control of the export trade of the world by Southern factories on medium and coarse fabrics. If Southern manufactures are to stand where their promoters expect them to, they depend more than any others upon the export demand for the classes of goods in which they can most readily and surely compete both with the North, with Great Britain and with Germany.

EDWARD ATKINSON.

### COTTON FOR JAPAN.

#### Minister Hoshi's Investigations at Ports of the South.

[Special Cor. Manufacturers' Record.]  
Washington, D. C., March 3.

Mr. Toru Hoshi, the Japanese minister to the United States, lately returned from a fortnight's visit to the farther South. His trip, which included Atlanta, New Orleans, Galveston and St. Louis, was not for the purpose of enjoying the balmy air of the Gulf at this season; it was not a mere pleasure jaunt, but it had a practical commercial purpose—the development of the cotton trade with Japan.

Restrained by characteristic Oriental reticence and by a desire to state nothing of which he was not absolutely certain, Mr. Hoshi, in a brief talk with a representative of the Manufacturers' Record, made a suggestion that it would be well for Southern men to adopt.

"I told the gentlemen in the South," said he, "that it would be well for them to have representatives in Japan looking after trade. Most of our machinery comes from England or Germany because they have come to Japan to sell it. We are manufacturing cotton yarns, about 1,000,000 spindles being now in operation. We began about twenty years ago, and use cotton grown in Japan, China or India. We use some American cotton, and will need more of it, as our cotton has not as strong a fibre as yours. We make practically no cotton cloth by machinery, and the yarns are sent into the country and made into cloth by hand. Enough yarn is already made for home consumption, but we do not intend to stop there. But we are not yet ready to compete with you," he added, with a smile.

Japan needs cotton, and the South has cotton for sale. How to place the buyers into close and cheap contact with the exporters is one of the problems which Mr. Hoshi is studying semi-officially, and the results of his investigation he will embody in a report to his government as soon as he has been able to arrange his notes and other material.

"We already get cotton from Savannah

and Houston," said he, "by way of the Suez canal. But that takes a long time. Still, the cost is only about eighty cents a hundred pounds for freight, while by rail to San Francisco and thence by water, a shorter route, it costs \$1.15 for freight. There are already three steamship lines from the Pacific coast to Japan, one from San Francisco, one from Seattle and one from Vancouver. The Japanese are talking of forming another company to touch at San Diego or Los Angeles, and to extend to Central America. This would bring the Texas cotton fields nearer to Japan, and, perhaps, some arrangement might be made to reduce the freight, which is only forty cents from coast to coast."

Mr. Hoshi was asked whether he had studied any other commercial opportunity of the South beside the cotton trade. He said he had not, but declared that Japan offered a great field for American products if transportation facilities were commensurate with the demand for goods. At St. Louis he inspected the new cylindrical-baling process, and was much impressed with its advantages in the matter of cleanliness, compactness and freedom from fire danger.

The Japanese minister has been in this country about a year. He is a son of a physician at Tokio. When he was twenty-two years old he became collector at Yokohama, and afterward spent some time in London studying the financial system and also practicing law. Upon his return to Japan after a tour in this country he organized with Count Stagaki the liberal party, of which he is still a leader. He has founded several newspapers, has served in the Imperial Diet and was chairman of the committee on codification of laws which passed those portions of the civil code so intimately connected with the revision of Japan's treaties with Western nations.

Evidence of his progressiveness appears in his deep interest in the promotion of manufactures and commerce among his people, and he is convinced that there ought to be a better exchange of products between Japan and the United States. Hence his investigations into cotton.

### TO TEST NEGRO LABOR.

#### A Cotton Mill to Be Erected by Members of that Race.

[Special Cor. Manufacturers' Record.]  
Concord, N. C., March 1.

At Concord, N. C., on February 22, a practical movement was placed in a business shape to test the question as to whether negro labor can be used profitably in the manufacture of cotton goods. This movement was started more than a year ago by one of North Carolina's leading colored men, W. C. Coleman, of this place, to whom more credit should be given than to anyone else. He has succeeded in not only enlisting the good wishes, but the financial support of nearly every leading colored man in this State in behalf of the enterprise. He has secured for the company one of the most desirable locations that could be had, and he has done this at a very low price.

To further show the energy and ability which he has developed in this enterprise, it might be well to say that he succeeded in obtaining his charter for the enterprise from both houses of the legislature, which is now in session, in just one day, and that within ten days after the passage of the charter the stockholders met in Concord, N. C., and organized by the election of R. B. Fitzgerald, contractor, of Durham, N. C., as president; E. A. Johnson, professor of law, Raleigh, N. C., as vice-president; W. C. Coleman, merchant, Concord, N. C., as secretary and treasurer, and a board of directors,

composed of six other persons, who are fully identified with the interests of the colored race throughout the South.

The management has secured as advisers the services of one of the most practical and successful cotton-mill men in North Carolina for his age, J. W. Cannon, of the Cannon Manufacturing Co., of this place, of the Patterson Manufacturing Co., of China Grove, and who is also interested in many other cotton mills, and J. M. Odell, of the Odell Manufacturing Co., of Concord.

The test will now be made of this question, and its result will be looked forward to with a great deal of interest by all parties. The enterprise is being encouraged by persons with various motives; some aiding it for the purpose of profit, others for the good of the race, while there are still others who wish the question tested from other motives.

Already sufficient capital has been subscribed to guarantee that the test will be made, while other subscriptions are being received daily from all parts of the United States, so that the only indefinite thing connected with the enterprise is the size of the plant to make the test.

### Textile Notes.

Mr. W. H. Parish, of Greenville, Ala., has in operation a cedar factory which he intends to change into a cotton mill, probably this year. It is proposed to form a stock company, and steps to effect that end will soon be set on foot.

Messrs. Fearn Bros., of Yazoo City, Miss., have leased and will operate the Co-operative Cotton Mills at Meridian, Miss. The mill will be run at its capacity of 125 dozen pairs of hose daily, and be increased from time to time.

The Louisville Cotton Mill Co., of Louisville, Ky., intends to put new machinery in its additional building, reported last week as building. About 3600 spindles and other machinery are to be installed. All the machinery has been purchased.

The Beaufort Knitting Mill Co., of Beaufort, S. C., recently reported as incorporated, will establish a plant for the manufacture of knit underwear and hosiery. The capital stock is \$20,000. A dyeing plant will also be installed in the mill. No machinery has been bought yet.

The bondholders of the Charleston Cotton Mills, of Charleston, S. C., held a meeting on February 23 and appointed Messrs. C. O. Witte, Charles Litgchi and Frank O'Neill to formulate plans for the reorganization of the company. The mill will be put in operation as soon as arrangements can be completed.

The board of government of the New England Cotton Manufacturers' Association held their monthly meeting at Young's Hotel, Boston, February 24. The sixty-second meeting, annual meeting, will be held at Chipman Hall, Tremont Temple Building, on Wednesday and Thursday, April 28 and 29. The programme has been arranged, subject to unforeseen changes. President Arthur H. Lowe, of Fitchburg, sailed for England on Saturday, February 27, but will return in time for the annual meeting. During his absence, the president's duties will be performed by Vice-President Fred C. McDuffie.

The steamship Milwaukee cleared from New Orleans last week with the following cargo: 18,850 bales of cotton, 426 sacks of horns, 352 pigs of copper, 134,400 bushels of corn (bulk), 1770 bags of cottonseed meal and cake and 29,234 oak staves. The entire cargo was equivalent to 26,650 bales of cotton. It is said to be the largest cargo that ever left New Orleans or any other Southern port.



**COTTONSEED OIL.**

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

**The Market for Cottonseed Products.**

New York, N. Y., March 2.

The cotton-oil market presents no new feature. Holders' views are firm, owing to the light offerings, rather than important demand. The situation is peculiar, and under ordinary circumstances would warrant heavier sales than are now being made. Lard is in a better position and steadily improving, while tallow is similarly situated. With hog and beef fats displaying a tendency to higher values, cotton oil may be naturally expected to follow suit. But freight room is yet hard to procure on a satisfactory basis, and exports are correspondingly restricted. While considerable quantities of crude have passed from the mill to refiners' premises, there is yet ample room for more, with regard to future needs, whether in the East or West. When the fact of comparatively light stocks now held is considered, in connection with inadequate supplies in consumers' hands, the outlook for higher prices for oil permanently would appear encouraging, more especially since the export demand will assuredly increase as ocean rates decline. At the moment the French markets are supplied, but strong enquiries reach this side with regard to prices for April-May delivery. Compound-lard manufacture is merely nominal with regard to the quantity manufactured, but with a further advance in the pure article, conditions would be speedily changed. Diminishing hog supplies at the packing centres would appear to sustain this view of the situation—a desideratum, truly. Oil is therefore held with confidence as being good property, whether here or in the South. Receipts of oil, as well as exports, are of a restricted character, while at this writing there is very little doing. At 23½ cents for prime yellow a fair volume of business could be transacted, but holders refuse to sell under 24 cents. With regard to loose crude, similarly, at 16 cents, with freight at 37½ cents, probably 60,000 to 100,000 gallons of oil could be placed promptly. The following are closing figures: Prime summer white, 26 to 27 cents; butter oil, 25 to 26½ cents; prime summer yellow, 23½ to 24 cents; off summer yellow, 23 to 23½ cents; prime crude, 20 to 20½ cents; off crude, 19½ to 20 cents; prime crude, loose, 15½ to 16 cents, and soap stock, ½c. Liverpool quotes 15s. 6d. to 16s. 3d. for refined oil for export.

**Cake and Meal.**—Prices of cake and meal abroad are in buyers' favor, according to latest advices from English importers. Prime American decorticated cake is quoted at £5 1s. 3d. to £5 10s. per ton, while American linseed cake rules slightly higher. Prices at primary and shipping points are unchanged. From London the following is received: "Of decorticated cotton cake fresh supplies have not yet come to hand, and the small quantity in store commands £5 7s., at which, however, there is not a free sale."

**Cottonseed-Oil Notes.**

The Seguin Cotton Oil Co., of Seguin, Texas, was incorporated last week, with a capital stock of \$40,000.

The following vessels cleared last week from Galveston, Texas, with cottonseed products and other merchandise: Steamship Hibernia for Hamburg with 25,900 sacks of cottonseed meal, 2673 sacks of cottonseed oilcake and 563 barrels of cottonseed oil; the steamship Woodleigh for

the same port with 32,094 sacks of cottonseed meal, and the schooner Elvira for Trieste with 4850 barrels of cottonseed oil.

It is stated that the Alabama Cotton Oil Co., at Demopolis, Ala., is shipping its product by steamer and barges, to be reshipped at Mobile for European ports. The company is now making a shipment of cottonseed meal, said to be 5000 tons, direct to Liverpool, getting a through bill of lading from point of production.

The market for cottonseed products in New Orleans last week was easy and unchanged; prime crude oil in bulk, 16½ to 17 cents; prime summer yellow in barrels, 23 cents; meal and cake, \$16 to \$16.75 per short ton and \$18.25 to \$18.50 per long ton for export. Receivers' prices ranged as follows: Cottonseed, \$7 per ton of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal jobbing per carload at depot, \$16.25 to \$16.50 per short ton of 2000 pounds; for export per long ton of 2240 pounds f. o. b., \$17.75 to \$18 for current month; oilcake for export, \$17.75 to \$18 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime in barrels per gallon, 17½ to 18 cents; loose, per gallon, 16 to 16½ cents, according to location of mill; refined cottonseed oil, prime in barrels per gallon, at wholesale or for shipment, 22½ cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 10 to 15 cents; linters, according to style and staple—A, 3½ to 3½ cents; B, 3¼ to 3½ cents; C, 2¼ to 2½ cents; ashes, none.

**The Galveston Jetties.**

It is announced that the jetty work at Galveston has at last been completed and turned over to the government. The entire cost of the jetties has been about \$6,400,000. They were begun in 1890, the largest being six miles long and the smaller four miles. Practically speaking, they are simply walls of rock extending outward from the entrance to the harbor and about one mile distant from each other. By means of the jetties the current of the Gulf has been diverted so that the sand bar which formerly existed at the entrance to Galveston bay has been in a great measure removed. At the time the work was begun about thirteen feet of water was on the bar at low tide. The last report is twenty-eight feet and six inches, although the average depth is estimated to be about twenty-five feet.

In constructing the jetties the piling was first driven, on which was built a tramway; next a layer of sandstone of about thirty feet wide and three feet thick was laid as a foundation, the sandstone being dumped into the sea from cars run out on the tramroad; next an embankment of sandstone rip-rap was laid, which was about ten feet wide at the top; upon this were placed large granite blocks, weighing from two to ten tons each. To give an estimate of the extent of the work, it may be stated that 400,000 tons of sandstone and 300,000 tons of granite have been used. The work has attracted a great deal of attention from engineers, not only in this country, but abroad, and in its inception many doubts were expressed as to its success.

In the Kansas City and Gulf edition of the Manufacturers' Record the description of the lumber industry in the vicinity of Orange, Texas, contained the statement that the output from mills in that place was 100,000,000 feet of lumber and 60,000,000 shingles annually. The figures should have been 150,000,000 feet per annum when the mills are running on full time.

**PHOSPHATES.****Phosphate Markets.**

Office Manufacturers' Record,  
Baltimore, Md., March 4.

The movement of phosphate in the local market has been lighter than usual at this period of the season, and the demand from manufacturers for prompt or future delivery is only moderate. At points of production the work of development is showing up to better advantage as the favorable spring weather approaches. In South Carolina the demand for rock continues light, but there is some business with foreign and domestic markets. Prices are nominally steady, and crude rock at the mines is quoted \$3, hot-air-dried \$3.25 Ashley river and \$3.45 Charleston city. The business in Florida is improving, and foreign shipments will increase, as shown by the charters recorded below. In Tennessee, miners are getting ready for the spring and summer campaign, and, with favorable weather, expect a good output. In the local market there are no arrivals or charters reported, and the freight business is quiet. In New York there is a good inquiry for large tonnage in long-voyage trades; phosphate steamers are more plenty; charters for the week were numerous. Among those reported were the following: A British steamer, 1352 tons, from Tampa to Stettin with phosphate at 18/6, March; the British steamer Heatherbell, 791 tons, from Tampa to Memel with phosphate at 20/, prompt; a British steamer from Fernandina to Memel with phosphate at 17/, March-April; a British steamer from Fernandina to Rotterdam with phosphate, March-April; the British steamer Glenwood, 1253 tons, from a Southern port to the United Kingdom or Continent with phosphate on private terms; a British steamer from Coosaw to Tyne with phosphate at 15/6, March; the British steamer Red Jacket, 1327 tons, from Coosaw to London with phosphate at 15/, March; steamer Laurelwood, 1595 tons, from Charlotte Harbor to Stettin with phosphate at 18/6, March; steamer Lundy, 1153 tons, from Fernandina to Hamburg with phosphate at 16/3, April.

**Fertilizer Ingredients.**

The market for leading ammoniates is quiet, with the demand only moderate. There is some business doing with Southern sections, but the volume of trade is light. In the West stocks are ample for the demand, and values are steady. Blood finely ground is quoted \$1.45 per unit f. o. b. Chicago, and \$1.42½ Kansas City; concentrated tankage, \$1.30 Chicago; sulphate of ammonia, \$2.15 ex store Baltimore and 2½ c. l. f. to come forward. Messrs. Thomas H. White & Co., in their circular for February, say: "Ammoniates have been without material change during February. The demand, although good, has not kept pace with the production, and prices have slightly receded." Nitrate of soda is steady.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).	\$2 25 @	—
Nitrate of soda.....	1 95 @	—
Blood .....	1 75 @	1 77½
Hoof meal.....	1 65 @	1 70
Azotine (beef).....	1 67½ @	—
Azotine (pork).....	1 67½ @	—
Tankage (concentrated)...	1 65 @	1 67½
Tankage (9 and 20).....	1 65 @	10
Tankage (7 and 30).....	15 00 @	16 00
Fish (dry).....	20 00 @	—
Fish (acid).....	11 00 @	12 00

**Phosphate and Fertilizer Notes.**

The steamer Eastland sailed from Fernandina, Fla., on the 25th with a full cargo of phosphate rock for Hamburg, Germany.

The British steamship Dorset cleared from Savannah last week for Genoa with

1095 tons of Florida phosphate rock and other cargo.

The sale of fertilizer tags by the commissioner of agriculture of Alabama amounted to \$30,000, and it is expected that the sales for February will reach that amount.

The Portland Fertilizer Co., at Albion, Fla., is making some very large shipments of fertilizer, and recently shipped 100 tons of fertilizer to New York. It is stated that W. N. Camp will soon begin operations at the plant of the Albion Mining & Manufacturing Co.

The St. Louis Ammonia Works, at St. Louis, Mo., filed articles of incorporation last week, with a capital stock of \$20,000. The incorporators are Edward Mallinckrodt, Robert P. Green, J. C. Atwood and Thomas H. Larkin. The concern will manufacture ammonia and its products.

The following shipments of phosphate rock are reported for the week from Charleston, S. C.: Schooner Warner Moore for Richmond, Va., with 663 tons, and schooner The Josephine for Baltimore with 975 tons. The total shipments since September 1, 1896, to domestic ports aggregate 46,760 tons of crude phosphate, against 55,844 tons for the corresponding period last year.

The works of the Carolina Sulphuric Acid Manufacturing Co., located at Blacksburg, S. C., were sold on the 23d ult. at Yorkville under a decree of court. The purchaser was Mr. Lewis H. Comstock, who bid \$20,000. He represents the first mortgage bondholders. It is not known definitely what will be done with the property, but it is probable that it will be immediately put in operation again.

**Good Roads in Arkansas.**

The Arkansas legislature has been giving considerable time during the present session to the consideration of improved roads in that State. It recently held a conference with the permanent committee on good roads appointed by the convention held in this State in 1896. The committee gave its views through Prof. A. C. Millar, of Hendrix College, who made an exhaustive address on the subject. He itemized the expenses of road construction, and stated that a mile of good road could be built at a cost of from \$800 to \$1200 with stone, while a dirt road would cost from \$50 to \$200 per mile. It is understood that a bill will be introduced into the legislature embodying a scheme for general highway improvement.

**Southern Women at the Paris Exposition.**

The Paris Exposition of 1900 will probably include a feature of special interest to the South. Several women's exchanges in Southern cities have determined to prepare a display which will indicate what has been done by the women of the South in various ways since the Colonial period. Miss Annie Napier, manager of the Women's Exchange of Macon, Ga., is the originator of the idea, and it is stated that already the women of Chattanooga and Memphis, Tenn., have promised active co-operation. During the time between now and the exposition, plans for a display which will not only be extremely creditable to the women of the South, but to the Southern States and this country in general, can be formulated and carried out.

*If you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving the character of the machinery needed.*



## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

## LUMBER MARKET REVIEWS.

## Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., March 4.

The local lumber market continues to show a light volume of business, and during the past week the demand in some channels is lighter than usual. Receipts of yellow pine have been quite liberal, and with the supply on hand previous to recent arrivals, prices will not likely show a hardening tendency. The demand for box lumber has been lighter during the week, and values easy, but for good flooring prices remain firm. Planing mills are not buying in large lots, and yardmen are not adding to their present stocks. The movement in kiln-dried North Carolina pine is somewhat improved, and values are firmer, with some demand for large lots. In white pine there is some stock moving, and prices remain very steady, especially for the better grades. Cypress is dull and easy. The hardwood business shows more activity, but the volume of trade is still very light. There is a light local trade, with some inquiry from furniture manufacturers and other woodworking concerns, and also some demand from out-of-town buyers. The export business is looking up, and advices from the European markets are still encouraging. Some of the leading shippers here are encouraged in getting out some good orders for shipment, and prospects are in the main more decided for active future business. The foreign exports of lumber for the month of February amounted to 3,307,000 feet of lumber, 4405 logs of wood and 121,000 staves.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

VIRGINIA AND NORTH CAROLINA PINE		
5-4x10 No. 2, kiln dried.....	\$12 50@	13 50
5-4x12 No. 2, kiln dried.....	14 00@	15 00
4-4x12 No. 1, kiln dried.....	15 00@	16 50
4-4x12 No. 1, kiln dried.....	15 50@	16 50
4-4x12 No. 1, kiln dried.....	13 00@	14 00
4-4 nar. edge, No. 1, kiln dried.....	17 00@	18 00
4-4 wide edge, No. 1, kiln dried.....	23 00@	24 00
6-4x10 & 12, No. 1, kiln dried.....	13 00@	14 00
4-4 No. 1 edge floor, air dried.....	10 00@	11 00
4-4 No. 2 edge floor, air dried.....	15 00@	16 00
4-4 No. 1 12-in. stock, air dried.....	12 00@	13 00
4-4 No. 2 12-in. stock.....	7 50@	8 50
4-4 edge box or rough wide.....	8 50@	9 50
4-4 edge box do. (ord. widths).....	9 00@	10 00
4-4 12-in. rough.....	5 50@	6 50
3/4 narrow edge.....	6 50@	7 50
3/4 wide.....	8 50@	9 50
2x10 1/2 and 10 1/2 inch.....	7 50@	8 50
Small joists, 2 1/2-12, 14 and 16 long.....	8 00@	9 00
Large joists, 3-16 long and up.....	7 00@	8 00
Scantling, 2x3, 2x4 and 3x4.....		

## WHITE PINE.

1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.....	47 00@	48 00
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 00@	43 00
Good edge culls.....	14 00@	15 00
Good stock.....	16 00@	17 00

## CYPRESS.

4-4x6, No. 1.....	20 00@	21 00
4-4x6, No. 2.....	14 00@	15 00
4-4x6, 16 feet, fencing.....	10 00@	11 00
4-4x6, rough.....	8 50@	9 00
4-4 rough edge.....	8 00@	
4-4 edge, No. 1.....	16 00@	17 00
4-4 edge, No. 2.....	12 00@	13 00
Gulf, 4-4, Nos. 1 and 2.....	28 00@	30 00
Gulf, 6-4, Nos. 1 and 2.....	31 00@	32 00

## HARDWOODS—WALNUT.

5-8, Nos. 1 and 2.....	65 00@	75 00
4-4, Nos. 1 and 2.....	80 00@	90 00
5-4, 6-4 and 8-4.....	85 00@	95 00
Newell stuff, clear of heart.....	85 00@	100 00
Culls.....	20 00@	30 00

## OAK.

Cabinet, white and red, Southern, plain-sawed and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	30 00@	34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@	55 00
Culls.....	10 00@	15 00

## POPLAR.

Nos. 1 and 2, 5-8.....	24 50@	25 50
Nos. 1 and 2, 4-4.....	28 00@	30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@	33 50
Culls.....	11 50@	12 50

## SHINGLES.

Cypr., No. 1 b'rts, sawed, 6x20.....	6 50@	7 50
No. 1 saps, sawed, 6x20.....	4 75@	5 25
No. 1 hearts, shaved, 6x20.....	6 00@	7 00
No. 1 saps, shaved, 6x20.....	5 00@	

## LATHS.

White pine.....	2 50@	2 75
Spruce.....	2 10@	2 20
Cypress.....	2 10@	2 20

## Norfolk.

[From our own Correspondent.]

Norfolk, Va., March 1.

The month of February developed but little in the local lumber market that indicated a speedy return of activity in one of the most important industries of the country. The volume of business was fair, but attended with no urgent demand on the part of buyers, and a disposition on the part of manufacturers to curtail the output. With the advent of spring there is, however, a better feeling among operators, and during the past week numerous inquiries have come to hand which in the near future will develop considerable actual trade. The various mills here are all running, but stocks are down lower than usual at this period of the season, and for air-dried lumber there is very little demand, while prices are generally easy for certain grades. Kiln-dried North Carolina pine shows more disposition to move, especially for the better grades. No. 1 and 2, 4-4 edge, 4-4x10 and 12 stocks are very scarce, and prices firm, with a fair demand. Box lumber is quiet, with no special inquiry, and stocks generally light, which is something unusual. Planing mills are all running, but not on full time, while from all indications an improvement is expected shortly. During the past week there has been a number of orders for round lots of lumber booked for future delivery, and several cargo lots have been sold to Eastern buyers for prompt shipment. The woodworking concerns in this city are generally all preparing for an improvement in business, which is naturally expected at this season of the year. The demand for lumber and timber from local buyers is improving, and the enormous strides which this city is making in the way of upbuilding and extension of improvements will cause millions of feet of material to go into consumption during the present year. In lumber freight rates are not materially changed, and are firm, with a moderate offering of tonnage. Vessels are freely offered at \$2.15 to \$2.25 to New York, and \$2.75 to Boston and vicinity. Among the lumber charters reported in New York last week were the following: Schooner E. J. Hamilton, 179 tons, Norfolk to Norwich at \$2.40 and towages; schooner Lucy Wheatley, 180 tons, from Suffolk to Bridgeport at \$2.25; a schooner, 385 tons, from Norfolk to New York at \$2.25; two schooners, 204 and 331 tons, from City Point, Va., to New York at \$2.15, and schooner Sarah and Lucy, 240 tons, from West Point, Va., to Philadelphia with ties at 14 cents.

## Charleston.

[From our own Correspondent.]

Charleston, S. C., March 1.

The general features of trade in nearly all lines in lumber and other wood products continues quiet. There is, however, a fair inquiry both from local and out-of-town buyers, and during the past week orders have been more numerous. Mills at Georgetown are all busy, and are shipping considerable material. At other milling points operations are about as usual, nearly all the mills being supplied with orders sufficient to keep them running on full time. Prices are generally steady, but do not show any marked advance, although for desirable grades prices are better. At the close of business on Saturday quotations ranged as follows: Merchantable lumber, \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. Shingles are in fair demand at \$5 to \$7. Among the vessels clearing during the past week are the schooner Florence Randall with 585-

000 feet of lumber; schooner Nelson E. Newberry with 530,000 feet, and barkentine E. S. Powell with 468,780 feet, all for New York. The total shipments of lumber and other wood products from this port since September 1, 1896, aggregate 28,864,764 feet, of which 27,965,764 feet were domestic and 899,000 feet foreign. The market for lumber freights is firm but quiet, with rates to New York \$4.38 to \$4.50, and dry lumber to Providence \$4.50; oak crossties to Philadelphia 19 cents; other ties 14 to 14 1/2 cents to New York. Among late charters are the British schooner Dove, from Wilmington, N. C., to Porto Rico at \$6.50 and port charges, and the schooner J. H. Parker, 521 tons, from Charleston to New York on private terms.

## Savannah.

[From our own Correspondent.]

Savannah, Ga., March 1.

The indications point to more activity in the near future of the lumber and timber market of this port. There has been a fair demand during the past week for desirable grades of lumber, and prices are decidedly firmer for this class of material. From milling sections there are also indications of more activity, and at interior milling points there is a fair prospect for an improvement in prices. The market closed on Saturday very steady, with prices as follows: Ordinary sizes, \$11 to \$12; difficult sizes, \$13 to \$18; flooring boards, \$15 to \$22; shipstuff, \$16.50 to \$20, and sawn ties, \$10. Among the shipments during the past week the following vessels are reported: Schooner Charles M. Patterson for Philadelphia with 581,449 feet of lumber; barkentine Carrie L. Tyler for New York with 325,386 feet of lumber and 796 crossties, measuring 35,028 superficial feet. Boston steamers cleared with 156,805 feet of lumber, Baltimore steamers 58,168 feet and New York steamers 121,733 feet and 75,000 staves. The freight market for lumber and timber is steady, with rates unchanged. From this and nearby ports of Georgia the rates are \$4 to \$4.50 for a range including Baltimore and Portland, Me. Railroad ties, basis forty-four feet, 16 cents. Steamer rates to New York and Philadelphia \$7, to Boston \$8 and Baltimore \$5. Rates to the United Kingdom for orders on lumber are nominal at £4 5s. per standard; to Buenos Ayres and Montevideo rates on lumber are \$10 to \$11, and to Rio Janeiro \$14. Among the charters reported are the following: A schooner, 404 tons, from Brunswick to New York at \$4.37 1/2, and a schooner, 438 tons, from St. Simon's or Union Island to New York at the same figure.

## Jacksonville.

[From our own Correspondent.]

Jacksonville, Fla., March 1.

The business of the month of February, while fairly active in nearly every department of the lumber trade, showed a decreased volume of shipments. The general trade of the port was fair, the total tonnage of the vessels entering showing an increase of 11,000 tons over that of January. The demand for lumber has been steady during the month just closed, and the mills at this port and nearby points have been fully employed on some good orders. Prices have ruled firm for all desirable material, and holders are very decided in their views, refusing in most cases to make concessions. The business in crossties is growing rapidly, and the demand is quite pronounced, so much so that those engaged in the industry find it at times difficult to fill orders promptly. During the month of February the shipments were only 19,090, being 15,000 less than in the month of January. During the present month it is likely that

shipments will be much larger, as there are said to be several large orders now on file. The cypress industry has shown a fair volume of business, although the shipments fell off about 250,000 feet for February, the total domestic exports of yellow pine and cypress being 6,845,000 feet, and of shingles 22,350 bundles. The foreign exports of lumber during February amounted to 884,038 feet, and of shingles 148,950. There are a number of vessels due to arrive to load lumber and other wood products for Northern ports, and the month opens under very favorable auspices. The vessels now loading lumber are the schooners Fannie F. Child and Josephine at Palatka, and John H. May at Satilla. The steamer Seminole cleared for New York on Saturday with a full cargo of lumber and other merchandise. Freights on lumber and other wood products are steady, with rates unchanged, at \$4.37 1/2 to \$4.50 for New York, and \$4.25 to Philadelphia. The schooner Mary Godfrey, 424 tons, was chartered in New York on the 23d ult. to load lumber at Jacksonville for Philadelphia at \$4.25, stone out from Millstone Point to Mayport at 65 cents.

## Mobile.

[From our own Correspondent.]

Mobile, Ala., March 1.

Increased activity in both lumber and timber has characterized the market here during the past week, and the volume of business has been greater than usual. The movement in timber has been unusually brisk, and shipments have been made to various ports in the United Kingdom and Continent and to the Canadian and South African market. Advices from Europe in regard to the timber market continue satisfactory, and at Liverpool the stock of hewed and sawn timber is considerably reduced, while values continue to rule firm, with a good demand. The market here for sawn timber continues firm, with a fair demand at 11 cents per cubic foot, 40-foot basis, and contracts at the same figure. Cypress is in fair demand at 5 to 8 cents per cubic foot, according to the average. Hewn timber when placed upon the market will bring 12 to 13 1/2 cents, basis of 100 cubic feet, average B1 good. For the best manufactured long-leaf pine contracts are made on a basis of 12 cents. There is a moderate demand for hewn oak at 18 cents per cubic foot for first-class timber. The market for yellow-pine lumber is active, with a good demand from Central and South America, Great Britain and the Continent. Prices for the better grades are advancing, and along the whole list there is a much better tone to values. Stocks at the various milling sections in this and the adjoining State of Mississippi are moderate, and with any urgent demand the assortment would soon become broken. The shipments during the past week are reported as follows: Bark Sumerlidge for Rotterdam with 24,298 cubic feet of sawn timber and 289,746 feet of lumber; ship Australia for West Hartlepool with 72,988 cubic feet of sawn timber and 22,606 feet of lumber; bark Lancashire for Cardiff with 73,345 cubic feet of sawn timber and 21,936 feet of lumber; schooner Emma for Rhyel, England, with 16,917 cubic feet of sawn timber and 40,631 feet of lumber; bark Nickolai for Port Natal, South Africa, with 51,858 cubic feet of sawn timber and 108,358 feet of lumber, and bark Louise for the same port with 278,951 superficial feet of sawn timber and 177,367 feet of flooring and deals. The bark Matens cleared with 20,516 cubic feet of sawn timber and 10,595 cubic feet of hewn; bark British Ameri-



can for Belfast with 37,816 cubic feet of sawn timber, 21,970 cubic feet of hewn and 22,219 feet of lumber; schooner Homan for St. John, N. B., with 15,140 cubic feet of sawn timber, 4278 cubic feet of hewn and 22,784 feet of lumber; steamer Uniment with 4278 cubic feet of sawn timber and 171,885 feet of lumber; bark Prince Eugene for Liverpool with 21,961 cubic feet of hewn timber and 623,328 feet of lumber; schooner Boniform for Port-au-Prince with 108,000 feet of lumber, and schooner Nason for Ruatan, Sp. H., with 26,000 feet. The market at Pensacola has been fairly active during the past week, with large shipments to Great Britain and the Continent. Over 3,000,000 feet of lumber, 2,600,000 feet of sawn timber and 58,690 cubic feet of hewn timber were shipped during the week. Timber and lumber freights are firm, with rates unchanged. The British steamer West Indian was chartered last week in New York to load sawn timber at Pensacola for Liverpool at 100/, April-May.

#### Beaumont.

[From our own Correspondent.]

Beaumont, Texas, February 27.

The tone of the lumber market shows a somewhat improved condition of the interior trade. While there has been no marked betterment, yet some of the mills in this section report a slight increase in orders and inquiries. Railroad material has shown a slight increase in movement, and is expected to show considerable improvement within the next month or two. The scum of stagnation rests upon the shingle market, but ripples of an improved condition are beginning to appear in increased inquiry. Prices, however, remain unsatisfactory, and for this cause the inquiries have not developed increased orders. One of the mills in this vicinity received an inquiry during the week for several million shingles, but as the figures did not allow a satisfactory margin, the trade has hung fire.

The export trade presents a good volume of business. Shipments have not been quite so heavy during the week, but this was due principally to lack of vessels and interruptions in barging. T. E. Spottswood & Co. during the week cleared a cargo for the Argentine Republic. This makes about a dozen vessels loaded by the above firm since the first of the year.

It is reported that a new mill will be located on the "Kaysee" Railroad, not far from the Hoo Hoo mill at Call station. The plans have not been perfected, but the region offers virgin timber, and when the proposed extension of the road is made we may naturally expect to hear the whistles of several new mills.

The Hoo Hoo mill at Call has been enjoying a good run since the saws first started. The orders on its books were recently increased by the addition of 15,000 ties and 300 stringers.

The clearances for the week from Sabine Pass were as follows: Bark Neptune by T. E. Spottswood, and the Lief and Atlantic, loaded by Martin Taylor & Co.

#### Lumber Notes.

The Kyle Lumber Co., of Gadsden, Ala., with a capacity of 40,000 feet per day, has resumed business and many operatives are at work again.

The foreign exports of wood and its products from the port of Baltimore for the month of February amounted to 3,307,000 feet of lumber, 4405 logs of wood and 121,000 staves.

The fleet of logs consigned to Chatta-

nooga, Tenn., from the upper tributaries of the Tennessee river have been coming in during the week. It is stated that over 2,000,000 feet have already arrived.

The Little Rock Woodworking Co., of Little Rock, Ark., filed articles of incorporation on the 25th ult. The capital stock is \$10,000. The incorporators are William Letzig, John L. Cook and R. M. Pearson.

Mr. F. F. Rogers, manager of the Forrest Hill Lumber Co., of Forrest Hill, La., is now sawing and stocking large quantities of German prime lumber. The company, it is stated, is preparing to export its product.

The Carrabelle Furniture & Novelty Co.'s factory, of Carrabelle, Fla., is now finished and in successful operation. It is stated that a large number of orders from towns in the State have been placed with the company.

The shipments of crossties from Brunswick, Ga., last week were the largest on record, being over 75,000. N. Emmanuel & Co. made the closing shipment of 10,000 ties in the schooner Stella B. Kaplan to Philadelphia.

It is stated that the Singer Sewing Machine Co. recently placed an order with a lumber concern at Nashville, Tenn., for 3,000,000 feet of oak, to be sawed and shipped at once. The stock was sold at reasonably fair prices.

The planing mill of Morgan & Gardner, at Charleston, W. Va., was destroyed by fire on the 24th ult., together with a large lot of lumber and shingles stored in the yard. The loss is estimated at \$20,000, with insurance \$13,000.

The Vicksburg Box Factory, at Vicksburg, Miss., will add to its plant machinery and material for the manufacture of coffins and bunks. The company will also add a two-story building to its plant, to be devoted to the new industry.

The deeds to the property of the Amoskeag Lumber Co., at Amoskeag, Ga., were transferred at Macon last week to the trustees of an Armenian colony. The colonists have bought the land for the purpose of engaging in agricultural pursuits.

The following vessels sailed from Fernandina, Fla., last week with cargoes of lumber and crossties: Schooners Henry Clausen, Jr., with lumber for Boston; Hattie C. Luce with lumber for Port-of-Spain, and William H. Sumner with crossties for New York.

The Bailey Manufacturing Co. has purchased the plant of the Elkin Lumber Co., of Elkin, N. C., and will enlarge its business. The company will also deal extensively in hardwood lumber and go largely into the manufacture of cross-arms, telegraph pins, etc.

The schooner Cassie B. Bronson sailed on the 24th ult. for New York with a cargo of 18,000 crossties from J. E. Broadhead. The schooner Jacob Reed was loading lumber at the cypress mills for New York, and schooner J. H. McCullough for Portland, Me.

In Southern West Virginia the damage to the lumber interests by recent floods can scarcely be estimated. The loss to timbermen along the Guyandotte, Twelve-Pole and Big Sandy rivers is extremely serious. More than 100,000 logs have gone out of the Guyandotte river alone.

The barge Ocean Belle, which has been loading with crossties at Brunswick, Ga., completed her cargo on the 22d ult. and proceeded to sea in tow of the tug George W. Pride for New York. She carried 34,000 ties, said to be the largest cargo ever taken from a Southern port. The cargo was made up of large-sized ties, and is equal to 40,000 of ordinary dimen-

sion. N. Emmanuel & Co. were the shippers.

Among the new lumber offices opened recently at Fernandina, Fla., are those of N. Emanuel & Co., of Brunswick, Ga.; the Yellow Pine Co., of New York, and J. M. Des Roches, of Jacksonville. These firms are now operating and are loading several vessels. The Old Oaks Mill has just been started by McNair Bros. & Gause.

The Mechanics, Dealers and Lumbermen's Exchange, of New Orleans, reports the receipts of building material for the week ending February 25 as follows: Lumber, 1,354,000 feet, and for the season 36,623,000 feet, against 52,112,800 feet last year. Shingles for the week, 40,000; laths, 50,000; oak staves, 116,000, and cypress staves, 72,000.

Messrs. J. C. and J. H. Williams, representing the Williams Lumber Co., of Eastman, Ga., visited Tuscaloosa, Ala., last week for the purpose of making an examination of the timber lands of that county. These gentlemen represent one of the richest lumber companies in the South, and it is said to be their purpose to establish extensive milling plants near that city.

A meeting of box manufacturers was held in Memphis last week for the purpose of discussing the present position of the industry and devising means for furthering the interests of manufacturers. Owing to the small attendance, very little was accomplished. Another meeting is contemplated, at which it is thought there will be a fixed selling price for boxes agreed upon.

The Burch Manufacturing & Supply Co., of Augusta, Ga., filed articles of incorporation last week. The capital stock of the company is \$3500. The incorporators are J. H. Milligan and David Shaw, of Richmond county, Georgia, and J. W. Burch and L. W. Burch, of Aiken county, South Carolina. The company will manufacture doors, sash, blinds, lumber, and deal in real estate.

It is said that a firm in Boston, Mass., has just contracted with the Eastman-Gardner Lumber Co., of Laurel, Miss., to furnish sixty-five carloads of fine quality of dressed lumber to be delivered to a chartered vessel at New Orleans bound for Boston. With this order already commencing to move, and other orders now on file from Northern points, business in the lumber line will be quite active at Laurel for some weeks to come.

The mill of the Cottonwood Box & Lumber Co., at Kenner, La., which has been idle nearly a year, has been leased by the Delta Veneer & Lumber Co., of Friar's Point, Miss. It is proposed to demolish part of the structure originally intended by the late Mr. Hanford, of Chicago, as a box factory, and to remodel it on an improved plan. Work will be fairly started next week, and the mill and factory are expected to be in working order by May next.

The clearances of lumber and timber from Pensacola on the 1st inst. were as follows: British schooner Mabel Darling for Nassau with 90,000 feet of lumber and 25,000 shingles; Italian bark Luigi for Genoa with 584,000 feet of sawn timber and 36,000 feet of lumber; Russian bark Norden for Lisbon with 477,000 feet of sawn timber, and bark Veritas for Gluckstadt with 4382 cubic feet of hewn timber, 262,000 feet of sawn timber and 380,000 feet of lumber.

A meeting of the citizens of Shreveport, La., was held in that city on the 22d ult. for the purpose of securing a fund of \$2000, which would be donated to the Red River Stave Co., of Fulton, Ark., provided they established a factory

in that city. The benefits to be derived from the erection of this factory were discussed, after which a committee was appointed to make a canvass of the city and secure the \$2000 which the company asked for before it erected the factory at Shreveport.

Among the exports of lumber from Beaumont, Texas, last week were several carloads of finish, shipped by the Reliance Lumber Co. through the ports of Galveston and New Orleans. They were destined for Belfast and Rotterdam. There has been a lull in shipping from Sabine Pass for the last two weeks, owing to lack of tonnage. The clearances last week were the bark Neptune, loaded by Messrs. Spottswood & Co., for the Argentine Republic; the bark Lief, by Martin Taylor & Co., and the bark Atlantic. The bark Melusine, loaded with lumber by the Reliance Lumber Co. for South Africa, sailed a day or two ago.

#### Enterprises at Norfolk.

In a letter to the Manufacturers' Record, Messrs. J. P. Andre Mottu & Co., of Norfolk, Va., write as follows:

"As regards new enterprises, we can only state that Norfolk is going right ahead. New people are coming here every week and houses are in great demand. Large transportation companies who have made this harbor their deep-water terminus have, of course, brought with them a great deal of activity and employ a good many hands.

"The belt railroad line that will connect Norfolk, Portsmouth and Berkley, or, in other words, all the terminating railroads on the Elizabeth river, is an assured fact. A bridge to cost \$85,000 will be constructed across the southern branch for the purpose, and the right of way is being located. There are several parties here looking around for the location of industries, but we are not at liberty just now to give away their names."

#### Kansas City.

The Manufacturers' Record of the 19th inst. embraces the Kansas City and Gulf Supplement, the twenty-four pages of which give a vast deal of information as regards the varied enterprises of the city and its superior geographical position. We are surprised to learn that it has become the second largest railway centre in the United States, and that no city except Chicago surpasses it in the number of railway systems. It has twenty-six lines, leading in every direction, traversing thirty States and Territories.

The Kansas City, Shreveport & Gulf road will be open for business from Kansas City to Shreveport, and by connections at the latter to New Orleans, Houston and Galveston, about March 1. There are only about twenty-five miles of grading to be done between Kansas City and Port Arthur, and the road will be open between the two terminals in April. This will be the shortest line from Kansas City to deep water at Port Arthur, and by its connections at Shreveport will be the shortest line to New Orleans, Houston and Galveston. The completion of the road to Shreveport will be properly celebrated there, as well as at Texarkana and Kansas City.

The Shreveport Times some days ago stated that the directors of the Missouri, Kansas & Texas Trust Co., the financial backer of the railroad under discussion, and owner of the Port Arthur town-site, had decided to expend \$250,000 in deepening the channel from Sabine Pass to Port Arthur, which latter is on the west side of Sabine lake and five miles from deep water. It is proposed to secure a channel 125 feet wide, twenty-six feet deep and five miles long.—New Orleans States.



**MECHANICAL.****THE LORAIN FOUNDRY.**

**Special Features of the New Establishment Recently Completed in Ohio.**

During the late depression in business comparatively few new foundries were

end of the building, the cupola at the other, and the core ovens, four in number, lying between them.

Room is provided for additional, core ovens when required, also for a second cupola.

The air furnaces are each of fifteen tons capacity and have separate stacks, although under the main roof they are separated from the foundry proper by a

the car, which is then removed and the crane so placed as to deposit the load on the stockpile or within the furnace door. The trolley beam extends several feet beyond the rails of the crane track on either side, the height being sufficient to clear the tops of the air furnaces. The capacity of the crane is ten tons, and it is easily operated by two men. This crane travels on a track between the two

by 100 feet in size. This room is also equipped with a five-ton electric crane for handling heavy cores. The engine and boiler-house, thirty-three by fifty feet, is of brick, and immediately adjoins the main building. It is subdivided into two rooms, one of which contains a seventy-five horse-power boiler of the return tubular type, a sixty horse-power Buckeye engine with automatic cut-off and a Sturtevant blower. The remaining portion of the building serves as a cleaning-room, and contains the most approved machinery for that purpose.

In the main foundry has been installed a roll lathe, with 56-inch sweep, and a bed of such length as to enable the handling and finishing of castings up to twenty feet in length. This lathe is so located as to be served by the large traveling crane. It is operated from a countershaft to which is geared a twenty horse-power electric motor, supported on a bracket attached to one of the main columns.

Pig iron, fuel and sand stockpiles are convenient of access, with a minimum haul.

The officers of the Lorain Foundry Co. are Max M. Suppes, president; F. A. Smythe, vice-president; W. F. Saltmarsh, treasurer, and Hugh H. Davison, superintendent.

**ELECTRIC SWITCH ENGINE.**

**Successful Operation of One for Freight Trains at New Haven, Conn.**

The use of the electric locomotive for switching purposes in steam freight railroad yards is likely to receive a marked impetus by the fact that one is now employed in connection with the New York, New Haven & Hartford Railroad at New Haven, Conn. This locomotive is in constant service switching freight cars between the main line of that road and a number of factories located along the river front.

The line over which it operates is about

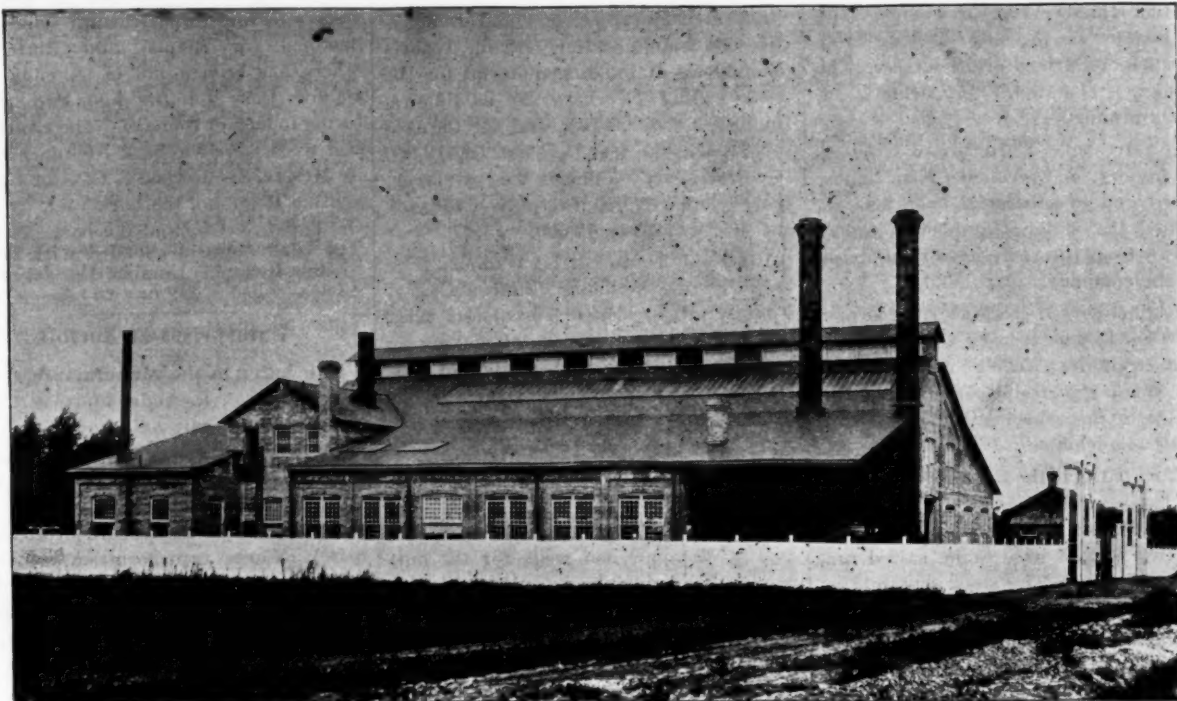


FIG. 1—LORAIN FOUNDRY CO.'S PLANT, EXTERIOR VIEW.

built in this country. It required strong confidence to enter a new field when trade was slack, but men who dared to venture had not only the advantage of very low prices for equipment of every economizing appliance that has been devised of late in response to demands of the keenest competition in prices of castings, but also the opportunity to avoid the embarrassments of changes and additions required by increasing business noticeable in some of the older foundries.

One of the plants recently completed is that of the Lorain Foundry Co., Lorain, Ohio. In its construction nothing was left undone that would add to economical production or to systematic and convenient operation.

The illustrations herewith presented give an idea of the size of the plant and the excellent arrangements of the various departments for the reception of the raw material from the main siding.

The main building is 154 feet by 160 feet, constructed of brick and iron throughout. Special attention has been given to the lighting and ventilation of this building, the roof being supplied with numerous skylights of ribbed wire glass, which offer immunity from accidents by breakage. The central roof trusses, sixty-one feet in span, rest upon substantial steel columns, to which are also attached the girders of an electric traveling crane of thirty-five tons capacity. This central bay affords an entirely clear floor space approximately 10,000 square feet in area for the casting operations and those incident to the molding of the heavier class of castings.

On one side of this central bay, and extending the full length of the building, thirty feet in width, is a floor space of nearly 5000 square feet, available for light molding and casting. An overhead electric traveling crane of five tons capacity enables the prosecution of this work in an economical manner. A transfer track and car enable the exchange of loads from one crane to the other.

On the opposite side of the central bay are located the two air furnaces at one

brick partition. The traveler or charging crane for these air furnaces consists of two upright end frames of structural steel, connected at the top by channel girders and rigidly braced throughout. Suspended from the girders midway between the end frames is a 15-inch I-beam, on the lower flanges of which travel a trolley with a differential hoist. The framework is mounted on 24-inch

furnaces, the arrangement of charging doors enabling one crane to serve both furnaces. The runners for tapping the furnaces pass through openings in the partition and converge to a ladle pit in the main foundry. Immediately adjacent to the latter is the casting pit, twelve feet in diameter and twelve feet six inches in depth below the floor level. The cupola is eight by twenty feet in



FIG. 2—LORAIN FOUNDRY CO.'S PLANT, INTERIOR OF MAIN BUILDING.

wheels, with roller bearings, and travels on a surface track of eight feet six inches gage, lying between the two air furnaces and crossing the main siding at right angles. The span of the connecting girders, the arrangement of bracing and the height of trolley beam are such as to permit an ordinary flat car loaded with scrap to pass between the end frames and underneath the hoist. The broken roll or other heavy scrap is lifted clear of

size; the charging floor being reached by a steam hoist. The core ovens are heated from grates at the sides and lying between the adjacent ovens, the coal being fed through openings in a platform level with the foundry floor. Pits of ample size beneath enable the convenient removal of ashes. The core ovens are closed at both ends with iron doors opening at the front into the main foundry and at the rear into the coreroom, thirty

two miles long, and is the property of several large manufacturers—the Bigelow Company, manufacturers of boilers; the National Pipe Bending Co., the Quinpiac Brewing Co., the New Haven Rolling Mills and others. It starts at the tracks of the New York, New Haven & Hartford Railroad at Cedar Hill Junction, which is about one mile from the New Haven passenger depot, and follows a devious course, throwing off sidings at



each of the different factories. The track is of regular steam-railroad type, with heavy steel rails, well ballasted, and provided with switches and turnouts. In addition to the curves, there is a  $2\frac{1}{2}$  per cent. grade against the load both ways on each side of Grand avenue.

The practice followed by the manufac-

journals,  $5\frac{1}{2} \times 8$  inches; gage, four feet eight and one-half inches; voltage, 500; amperes full speed and normal draw-bar pull, 600; amperes fair speed and normal draw-bar pull, 300.

The motors are two in number, each axle being provided with its own motor. The motors are gearless, and are sup-

plate loose upon the axle, and similar projections from the wheel enter the plate from the other side, so that, as the armature revolves, the wheels are revolved also. This coupling, being flexible, allows perfect freedom of motion. The commutators are of substantial construction, and each motor has four sets

tors. It is of the same general type as the K2, with which we are so familiar in ordinary street-car practice, and is provided with separate reversing switch and the magnetic blow out. The resistances are set beneath the shields, and are of the packed-ribbon type.

The automatic circuit-breaker is of 500 amperes capacity, and involves also the magnetic blow-out principle, as does the lightning arrester, which is set upon the floor of the cab behind the controller. In the front of the cab, and above the controller, is a circular dial ampere meter reading to 500 amperes, and facing the motorman is the air-pressure gage. On the other side of the cab, opposite the controller, is an oscillating cylinder air pump, driven by a motor. This furnishes air to two air tanks suspended beneath the cab, and is automatic in its action.

The air-pressure pump is controlled automatically by a pneumatic governor, consisting of a cylinder containing a piston working against a spring. The action of this automatic control is as follows: A pipe running from the main reservoir enters the cylinder below the piston. As the pressure rises the piston is forced upwards against a spring. The other end of the piston rod carries the contacts, through which the pump motor circuit is made and broken. When the pressure falls below that at which the automatic control is set the spring forces the piston down and the circuit is broken. Any arcs that may be formed when the contact is broken are blown out in the magnetic field. The locomotive is provided with a chime whistle, blown by the compressed air, and a railroad headlight is set upon each shield. Beneath each one of the shields is an iron sand box, provided with pneumatic feeding device.

Electricity for this locomotive is furnished from the Fair Haven and Westville power-house, which stands on Grand avenue, about the middle of the line, and the current is taken by trolley from an overhead wire suspended from brackets. The operation of the locomotive is marked by extreme smoothness, and without load it can be run at almost any speed, and with load starts without jerk

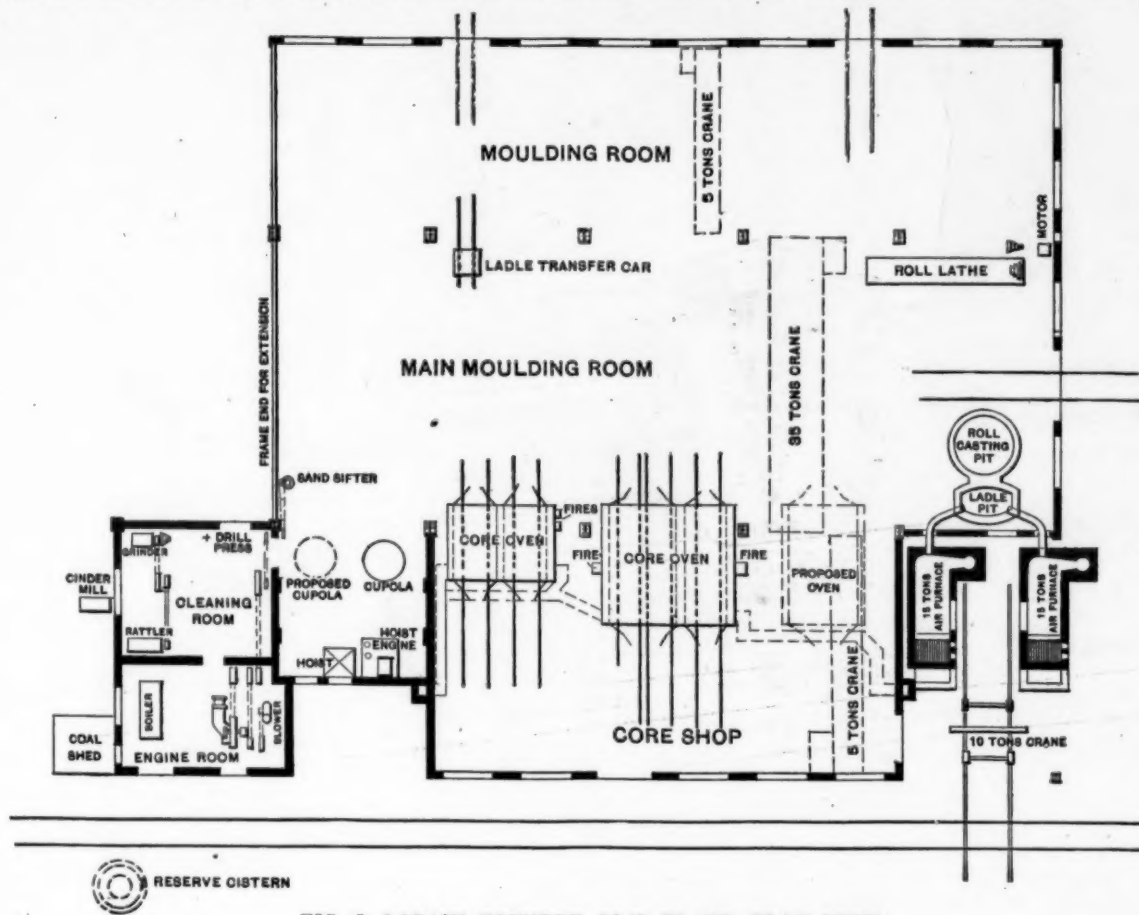


FIG. 3—LORAIN FOUNDRY CO.'S PLANT, PLAN VIEW.

turers hitherto in switching their cars has been for the freight engines of the New York, New Haven & Hartford Railroad to drop the cars at the junction; from here they were hauled to the different factories by horses. This method was so slow, with the several curves and grades, and so hard upon the horses, that the manufacturers were driven to the conclusion that some other method of traction must be employed. Steam traction was rejected, for the excellent reason that the line runs for some distance along a frequented thoroughfare, where a switching engine would be a dangerous adjunct. That the steam locomotive would also be standing idle under steam for a large part of the day and consuming coal uselessly was also a weighty consideration.

Electric traction was finally adopted as presenting many economical and other advantages, and an order was placed with the General Electric Co. for a 30-ton locomotive, which the company could guarantee would haul two loaded freight cars up a  $2\frac{1}{2}$  per cent. grade at a speed of seven miles an hour. The locomotive was delivered at New Haven on the 8th of December, and on the 11th was put into actual operation without preliminary test on the line. Since that date it has been handling the entire movement of the cars between the factories and the junction. On receipt of the locomotive the manufacturers painted upon the cab the words "Manufacturers' Railroad No. 1," and after two weeks' experience are extremely proud of their new acquisition.

The dimensions of the locomotive are as follows: Weight, 58,000 pounds; draw-bar pull, 7000 pounds; length over draw-bars, sixteen feet six inches; height over all, eleven feet six inches; width over all, eight feet three inches; wheel-base, five feet six inches; diameter of drivers, forty-four inches; number of drivers (with cast-iron centres and steel tires), four; size of

ported upon a system of spiral springs resting on the side frames of the locomotive track. The suspension being entirely upon springs, the wheels are free to adjust themselves to the irregularities of the roadbed, and the wear on both tracks and motors is thus consequently diminished.

In the armatures the ironclad type of

of brushes.

The truck is constructed of I beams, and forms the foundation for a locomotive cab of sheet iron, with sloping shields at each end. It has two hinged doors, one on each side, and sliding windows at the sides, the front ones being stationary. As there are windows on all sides, the motorman has a view in all di-



ELECTRIC SWITCH ENGINE.

construction has been followed—that is, the windings are placed in a mica-lined slot cut in the surface of the laminated core. The armature and commutator are upon a sleeve, through which the axles pass. The sleeve rests in bearings on the motor frame. Two projecting arms from the sleeve fit into the openings in an iron

reactions. The interior of the cab is finished in cherry, and contains the rest of the electrical equipment—automatic circuit-breaker, controller, lightning arrester, reversing switch, air pump, air gage, etc.

The controller is the L2 series parallel type, arranged for the control of two mo-

of any kind. It responds immediately to the motion of the controlling lever, and can be backed up to a freight car for coupling as gently as the movement of a hand. One of the difficult duties it has to perform is the kicking of the freight cars over the curves in the New Haven Rolling Mill, in which there is one with a

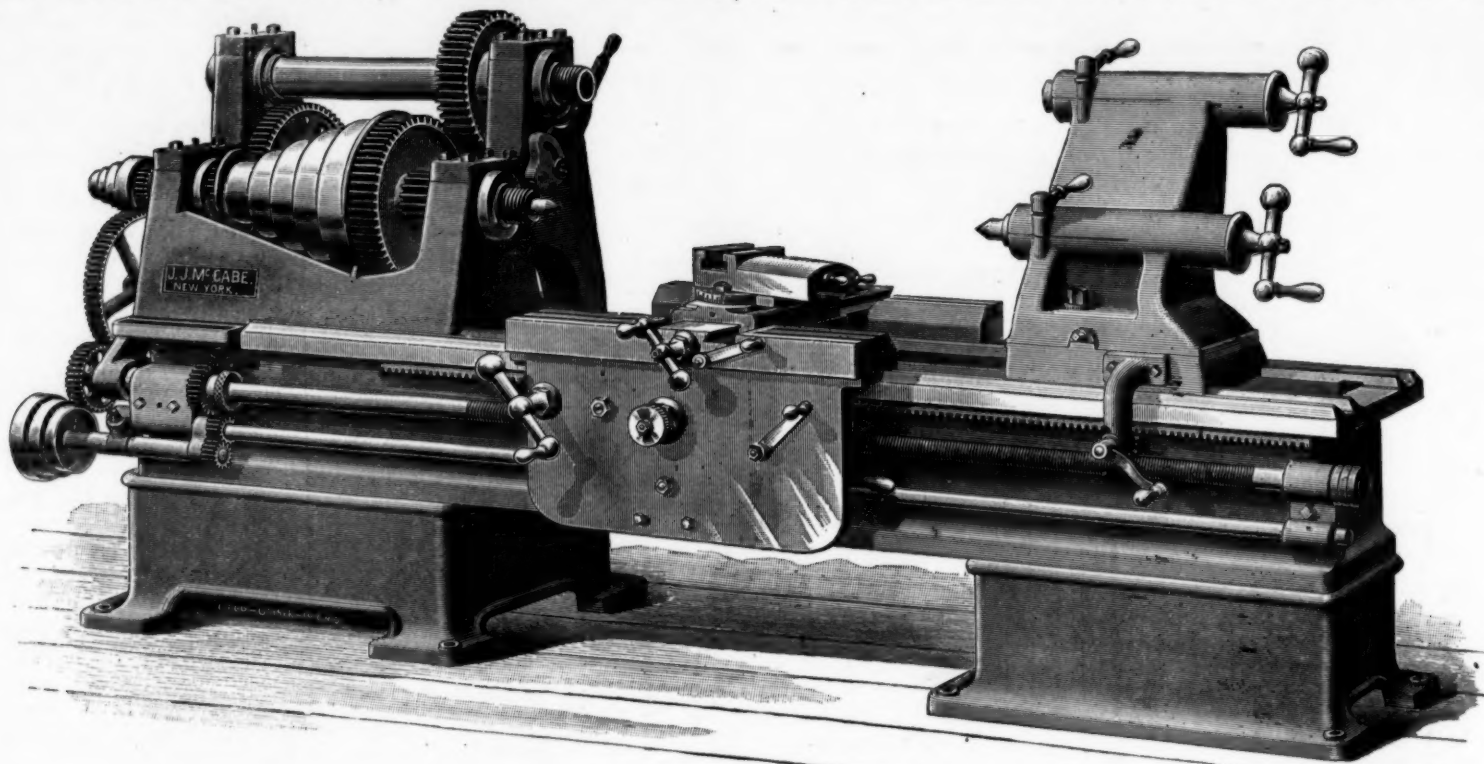


radius of only fifty feet. The locomotive can handle seven heavily-loaded cars around this curve as easily, apparently, as it can two. Its operation is already attracting considerable attention from railroad engineers, several of whom have already visited the scene of its operation. In order to show one of these engineers

ratio being 22 to 1, and it is capable of handling large work up to its full swing in a very convenient manner; third, it has a wide range of speed and feeds—for instance, if the feed on the lower spindle is geared 60 to the inch, it will be 30 to the inch on the upper; fourth, changing from one spindle to the other is done instantly

two-and-one-eighth-inch holes. The boxes are of bronze composition, front seven inches long, rear five and one-half inches. The cone has five steps, the largest sixteen inches in diameter, three-and-one-half-inch belt. The tail-stock is very long and heavy, and the tail spindles have long travel, and are provided with tight-

The dimensions of the machine are as follows: Swing over the bed, 26 and 44 inches; swing over the carriage, 16 and 39 inches; bed, 10 feet turns, 5 feet between; hole in spindles,  $2\frac{1}{8}$  inches; cuts threads 2 to 18, including  $11\frac{1}{2}$  inches; pulleys on countershaft, 18 inches in diameter, 4-inch face; speed, 120 revolu-



McCABE'S DOUBLE-SPINDLE TRIPLE-GEARED ENGINE LATHE.

what the locomotive would do, six loaded cars were hauled up the steepest grade with the slack all out, the start being made on a grade of about 1 per cent.; 150 amperes only were required to start this heavy train, and it moved off very smoothly and gradually.

#### Double-Spindle Lathe.

Intended for shops where most of the work can be done on a 26-inch lathe and

by engaging or disengaging the intermediate driving pinion; fifth, in doing the largest work the tool rest is supported on the strongest part of the carriage, and does not overhang; sixth, the upper spindle makes one revolution to two of the lower, consequently it will cut double the range of threads and has double the range of feeds of an ordinary lathe with the same number of gears—for instance, when geared to cut four threads on the

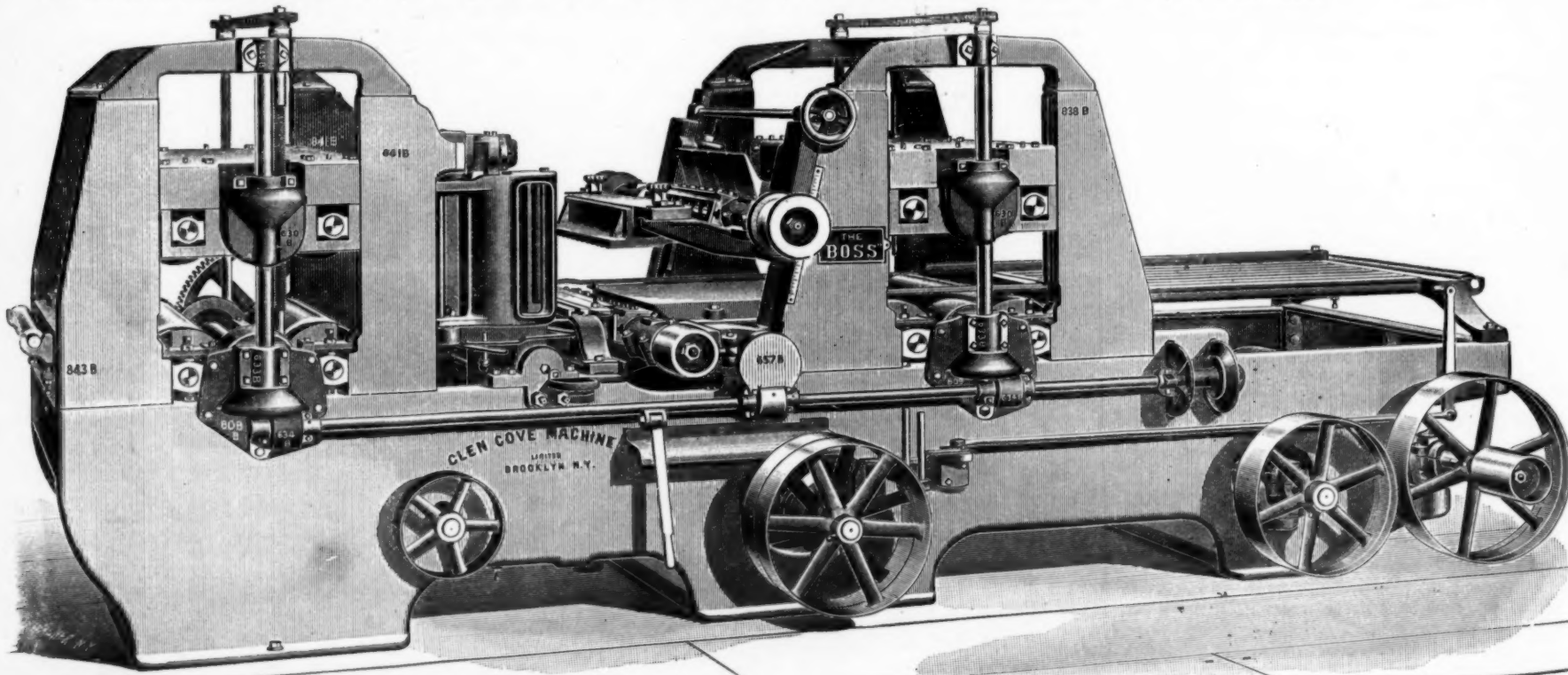
eners to take up wear. The carriage is extra long and heavy, with slots on top for clamping work in boring. The rod feed is operated with both belt and gears. The geared feed is arranged so that very fine or coarse feeds may be obtained independent of the screw by using the change gears.

An improved cross-feed binder clamps the carriage firmly to the bed when cross-feeding by means of an eccentric

tions; weight, on 10 feet bed, 7500 pounds.

#### Fully-Equipped Lumber Mill.

The machinery for the Wagar Lumber Co., of Wagar, Ala., probably one of the finest and most modern plants in the South, has been furnished by the well-known Glen Cove Machine Co., of No. 50 Broadway, New York city; whose works are in Brooklyn.



GLEN COVE TIMBER MACHINE.

occasional large jobs requiring up to 44-inch swing is McCabe's double-spindle, triple-geared engine lathe. The advantages claimed for it are, first, it can be used on all classes of work, light, medium and heavy; second, it is built very heavy, is powerfully triple-geared, the

lower spindle, these gears will cut two threads on the upper spindle, and when geared to feed 60 to the inch on the lower spindle, it will be 30 on the upper.

In the machine illustrated herewith the spindles are four and three-eighths in diameter in front bearings, hollow, with

lever on the front of the carriage. An improved reverse motion in apron is so arranged that it is impossible to engage the screw and rod feeds at the same time.

The lathes are furnished with large and small face plates, steady and follow rests, gears, centres and countershaft.

The planing-mill building is 105 feet wide by 120 feet long, and there are three standard-gage railroad tracks running through the full length of the plant. This enables the lumber to be brought to the planers very economically, and also to be disposed of at the least possible expense.



The planers, etc., are driven by a 16x22 engine of the latest make and design, with four-inch line shafting overhead of the machines. The blower is so located that the shavings from the machines are taken into it in a straight line, thus giving the blower its greatest efficiency, and keeping the machines perfectly free from shavings.

The boiler-house is 100 feet from the planing mill, which is 120 feet from saw mill, and 1000 feet from dry-kilns, and 300 feet from yard and sheds. In case of fire, therefore, there is little risk of losing more than a small part of the plant at one time.

The equipment consists of two Glen Cove No. 56 fast feed flooring machines, with fifth head and floor board boring attachment, and one Glen Cove heavy 30x16 four-sided timber machine. The flooring machines are designed for turning out a large quantity of work of superior quality. The fifth head, at the carrying-out end of the machine, gives the work an absolutely perfect finish. The finishing head, being at the carrying-out end outside of the rolls, all roll and chip marks are removed, and the finish cannot be otherwise than perfect.

The timber machine can be used as a heavy matcher, for factory flooring, etc., as well as a timber machine or fast feed double surfacer. The top bearings of the matcher-heads are detachable, so that Shimer or three-winged heads can be used, as well as the regular matchers.

With a view to the molding trade—which is rapidly becoming a factor in the Southern mills—a five-head outside molder, made by the Levi Houston Co., of Montgomery, Pa., has been put in. This is a very substantial machine, being heavy, rigid and durable, calculated to stand the strain without the least vibration in any of its parts. It will do excellent work, and plenty of it. The adjustments on this machine are all very convenient and complete. There have also been put in two of Mershon's well-known band rip and resaws.

#### Iron Markets.

Cincinnati, Ohio, February 27.

The large orders for steel rails given so nearly at the same moment imparts to the iron and steel trades a great stimulus, producing a feeling of exhilaration the market has not known for some months.

There was a confident feeling that a corresponding awakening of the allied industries would contribute further buoyancy, and that a trade wave might rise, upon the breast of which all the metal interests of the country might be uplifted and advanced. While the general conditions are improved, possible foreign diplomatic complications, and an almost universal feeling of uncertainty as to the future, for the moment extend no invitations to the speculative, and leaves surplus capital unemployed, all seeming to keep the pig-iron market in a conservative condition.

Bessemer pig is firm at advanced prices, but non-Bessemer are as yet unaffected.

The leading brands of Southern iron are firm at low figures, and as the foreign demand is relieving the makers of their lower grades of which the furnaces are more prolific, they are suffering no burdening accumulations.

The flood that has prevailed the past week, and still exists throughout the length of the Ohio river, has seriously interrupted manufacturing and entailed heavy losses.

We quote for cash f. o. b. Cincinnati:

Southern coke No. 1 foundry..	\$10 25@10 50
Southern coke No. 2 foundry..	9 75@10 00
Southern coke No. 3 foundry..	9 25@9 50
Southern coke, gray forge....	9 00@9 25
Southern coke, mottled.....	8 75@9 00
Southern coke No. 1 soft.....	9 75@10 00
Southern coke No. 2 soft.....	9 75@10 00

Belfont coke No. 1, Lake Sup..	11 50@12 00
Belfont coke No. 2, Lake Sup..	11 00@11 50
Hanging Rock charcoal No. 1..	15 00@16 00
Tennessee charcoal No. 1.....	13 00@14 00
Jackson Co. silvery No. 1.....	13 00@14 00
Standard Alabama car-wheel..	14 75@15 50
Tennessee car-wheel.....	13 50@14 50
Lake Sup. car-wheel & mall'e.	14 75@15 25

Philadelphia, Pa., February 27.

There is an improvement in the general situation. Reports from Pittsburgh indicate that Bessemer billets and steel rails are advancing. On Wednesday of this week a meeting was held in this city, which was attended by representatives of Pennsylvania furnaces east of the mountains and representatives from the Virginia district, the object of said meeting being to curtail production, if such a course seems necessary, in order to prevent the selling of iron under cost. Everything points toward better prices, and the indications are that the consumption of iron this year will be 10 per cent. heavier than that of any other year in the history of our country. The revival which we have often mentioned in our weekly letters seems to be postponed longer than we originally intended it should be, but it will come.

We quote for cash f. o. b. Philadelphia docks:

No. 1 X standard Alabama..	@11 75
No. 2 X standard Alabama..	@11 25
No. 1 X standard Virginia....	@11 75
No. 2 X standard Virginia....	@11 25
No. 1 X lake ore iron.....	@13 50
No. 2 X lake ore iron.....	@13 00
Lake Superior charcoal.....	15 85@16 35
Standard Georgia charcoal....	16 25@17 00

New York, N. Y., February 27.

The lightest possible business is reported among local foundries. All interest in the iron trade centres in what is going on at a distance, especially the activity in rails, billets, wire rods and Bessemer pig in Pittsburgh district. All the arguments of the situation are strong and encouraging, only the facts are that business is kept back. Opinions are about equally divided between those who expect a marked improvement to set in soon after the new administration takes hold and those who defer it until mid-summer or later, when the tariff has been readjusted and had time to correct the evils of the present situation.

The money markets continue easy, and capital goes on piling up in the banks and trust companies. There is a complete absence of special interest in speculative markets. Jobbers report improvement, the town being full of buyers from the West and South.

We quote for cash f. o. b. docks or cars New York:

No. 1 X standard Southern..	@11 75
No. 1 X Virginia.....	@11 75
No. 2 X Alabama or Virginia..	@11 25
No. 1 soft Alabama or Virginia	@11 50
No. 1 X lake ore coke iron....	@13 50
No. 2 X lake ore coke iron....	@13 00
Lake Superior charcoal.....	@16 35

ROGERS, BROWN & CO.

#### To Cotton-Growers' Advantage.

The Manufacturers' Record of last week devoted five pages to an illustrated description of the cylindrical cotton bale, uniform, clean, compact and almost fire-proof. The new system will prove of enormous advantage to cotton-growers, saving the discounts for dirt and moisture, freight and insurance charges. The Manufacturers' Record says: "The mechanism for making round-rolled bales of cotton at last has been brought to such practical perfection that its almost immediate general use may be set down as a foregone conclusion."—Aransas Pass (Texas) Herald.

#### Southern Ice-Makers.

The recent convention of Southern ice manufacturers at Charleston, S. C., was attended by representatives of this industry from nearly every Southern State, as well as a number of Northern firms also interested. The reports showed that the association now has seventy-seven mem-

bers, and is in a prosperous condition. The question of forming a national ice manufacturers' association or exchange was discussed, and an effort will be made to accomplish this. The following officers have been elected by the body: R. C. Graves, Memphis, Tenn., president; S. P. Hart, New Orleans, La., vice-president; E. E. Egan, Atlanta, Ga., secretary and treasurer.

#### A Southern-Built Gunboat.

Judging from the work of the first of the gunboats being constructed by the Newport News Shipbuilding & Dry-Dock Co., that corporation will obtain a very creditable record for itself as a builder of war vessels. The Wilmington, one of the gunboats constructed at the shipyard, has made her builders' trial trip, and exceeded her contract speed of thirteen knots by one and three-quarters knots, it is stated. The machinery worked smoothly, and the builders are confident that the gunboat will increase her speed at least a quarter of a knot when she makes her official trial trip. This entitles them to a premium of \$40,000.

The Railroad as an Element in Education. By Prof. Alex. Hogg, M. A., superintendent schools, Fort Worth. Revised and enlarged, with new illustrations. Publisher, John P. Morton & Co., Louisville, Ky.

At the meeting of the Texas Teachers' Association in 1894 Prof. Alex. Hogg, M. A., superintendent of the Fort Worth schools, offered a resolution that was adopted, asserting that the teachers of the republic should enter upon a systematic course of instruction, embracing not only broader patriotism, but more extended moral teaching, especially in regard to the duties as well as the rights of citizenship, the right of property, the security and sacredness of human life. As one of the best means to such an end, Professor Hogg has published a pamphlet entitled "The Railroad in Education," based upon an address delivered in 1885 before the international congress of educators at the New Orleans Exposition. Nothing is a greater power for education than a transcontinental train; nothing tends more to widen the horizon of the intellect than contemplation of such facts as that one may travel in sixteen hours from Jacksonville, Fla., to Washington, 780 miles; in three days and one-half from Boston to San Francisco, 3317 miles, and that the running time of a regular train between New Orleans and San Francisco, 2489 miles, is thirty-five miles an hour, and nothing has done more to unify the country than the rapid extension of railroads. Normal effects of climate have been overcome, the people of one section have ready and cheap opportunities to disabuse their minds of erroneous ideas about the people of others, the general comfort of all has been increased and it is not surprising that Professor Hogg finds in the independent development of steam, steel, science and skill of methods of transmission and transportation a fulfilment of the utterances: "There is no speech nor language where their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world," and "Every valley shall be exalted, but every mountain and hill shall be made low; and the crooked shall be made straight, and the rough places plain." With this great growth in the last fifty years has naturally come a modification of the relations of man to man, an intensifying of sensibility as the arteries of the railroads and the nerves of the telegraph wires have widened their network. Bearing upon this subject is a conservative, judicious

chapter on the inception and history of strikes. Supplementary to this are suggestions in statements of the intimate connection between the extension of railroads and the selection of sites for educational centres, the comparisons of the number of miles of railroads in a State and its public-school facilities and direct aid to science, the arts, religion and philanthropy rendered by the gifts of such men as Col. Thomas A. Scott, Cornelius and William H. Vanderbilt, John W. Garrett, George I. Seney, Leland Stanford, Joseph E. Brown, Collis P. Huntington, C. F. Crocker, James J. Hill and others whose wealth had been accumulated as a consequence of railroad growth. There is, perhaps, nothing more significant about the publication of Professor Hogg than the fact that in twelve years the original address of twenty-five printed pages has undergone an evolution into a volume of 112 pages in the purpose to keep its facts up to date.

#### TRADE LITERATURE.

Heating by Water.—A little pamphlet descriptive of its new hot-water heater has been issued by the C. R. Meres Heater Manufacturing Co., of Norwalk, Ohio.

For Civil Engineers.—Part second of the seventeenth edition of the catalogue of Queen & Co., Incorporated, Philadelphia, Pa., is devoted to engineering instruments and materials of all varieties. A bibliography of standard authorities on mechanics and kindred subjects is also published.

Water-tube Boilers.—The Aultman & Taylor Machinery Co., of Mansfield, Ohio, has issued the fourth edition of its catalogue devoted to the Cahall water-tube steam boilers. It contains many illustrations of the boilers and their fittings, and of establishments in different parts of the country where they are in use.

A Cooling Tower.—A handsomely-printed and illustrated special catalogue of the Henry R. Worthington Hydraulic Works, of Brooklyn, N. Y., is devoted almost exclusively to an apparatus, the Worthington cooling tower, for saving the water used on ammonia and steam condensers. The catalogue will be sent to those persons applying to Mr. Worthington.

Machines for Grinding.—A new catalogue just issued is that of the Norton Emery Wheel Co., Worcester, Mass., containing complete information of its emery goods and grinding machinery, together with a list of its agencies in this and foreign countries. The catalogue contains nearly 100 pages of very useful knowledge, to be sent to anyone who may apply to the home office of the company, Worcester, Mass.

Knock-down Boats.—A new idea for those interested in aquatic sports is given in the catalogue of the American Boat Building Co., of St. Louis, Mo. It has undertaken to build, sell and ship launches, yachts, canoes, skiffs and other kinds of boats in the knock-down. It supplies all the parts of boats, carefully fitted and ready to nail together. The catalogue has many illustrations of model boats and details of their construction.

An Atlanta Industry.—A publication revealing enterprise and merit is the catalogue of the E. Van Winkle Gin and Machine Works, of Atlanta, Ga. Recently the works has secured the services of two practical mechanics and practical ice-machine men, who have built machines in many parts of the country, and the present pamphlet, in its technical, though popular descriptions, and its illustrations of a great variety of machinery, its applications and appliances, also indicates a determination to advance as rapidly as possible.

High-Duty Compressors.—The advance sheets of catalogue No. 31 of the Ingersoll-Sergeant Drill Co., of New York, are a promise of a very complete and attractive publication; in fact, they might readily be mistaken for the finished volume. They are devoted to the subject of high-duty air compressors, of straight line, single, compound, duplex, half-duplex and triple types, to be driven by steam, electricity, belt rope, gear, Pelton wheel or turbine. The company has been building compressors for twenty-five years, and this exposition is an excellent presentation of the results of experiments and experience.



# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD** seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

## ALABAMA.

Decatur—Tan-yard.—The American Oak Extract Co. (Mr. Mooney, of Indiana, chiefly interested,) is improving its tan-yard in connection with its extract plant.

Greenville—Cotton Mill.—W. H. Parish, now operating a cedar factory, intends this year to convert his plant into a cotton mill. A stock company is proposed.

Montgomery—Immigration, etc.—T. J. Scott, of Montgomery; E. A. Sommers and Robert H. Maher have incorporated the Alabama Emigration & Development Co., with capital stock of \$5000; purpose, to encourage emigration, etc.

Talladega—Meal Mill.—The Talladega Milling Co., (George T. McElderry and S. R. Bingham) will alter its flour mill into a meal mill exclusively (four run of stone). A packer, crusher and other machinery will be put in.\*

Talladega—Machine Shop.—George T. McElderry and S. R. Bingham have leased their machine shop to W. E. Quinn, who will continue the operation of the plant. Some new machinery will be put in.\*

## ARKANSAS.

Little Rock—Woodworking Factory.—Incorporated: The Little Rock Woodworking Co., with capital stock of \$10,000, and will put in operation the Fletcher woodworking factory; William Letzig, president; J. L. Cook, vice-president, and R. M. Pearson, secretary-treasurer.

Little Rock—Natorium.—Leo Treadway and his associates will build an auditorium, as stated in our last issue. A twenty horse-power boiler, pump, dynamo, hot, cold and Turkish baths and other machinery will be installed. The building will be 64x150 feet in size, with pool 40x100 feet, depth of two to eight feet. The entire plant will cost about \$15,000.

## FLORIDA.

Palmetto—Wharf.—Howse & Lamp have contracted with T. A. Mitchell, of Tampa, for the erection of a large wharf.

## GEORGIA.

Albany—Gas Plant.—A company has been formed to build a gas plant. Charter will be applied for. Eastern capitalists have subscribed to the stock. W. A. Stokes can possibly give names of parties.

Athens—Broom Factory.—J. G. Bowden and O. E. Riley have established a broom factory.

Blueridge—Machine Shops.—The Atlanta, Northern & Knoxville Railroad will build machine shops. Ten acres of land has been secured as a site. Joseph McWilliams, general manager, Marietta, Ga., can be addressed. (This item reported by error under Jasper, Ga., during the week.)

Cedartown—Tannery.—W. B. Engesser, of Douglasville, will remove his tannery and harness factory to Cedartown.

Columbus—Flour Mill.—The Empire Mill Co. has been incorporated to continue the operation of the present Empire flour mill. The incorporators are George W. Woodruff, Joel Hurt, H. L. Woodruff and others, and the capital stock is \$10,000. It is stated that the mill will be enlarged.

Columbus—Water Works.—The election on the proposed \$200,000 bonds for water works resulted adversely.

Douglasville—Publishing Company.—J. T. Duncan, J. S. James, R. E. James and others have incorporated the Douglasville New South Publishing Co., with capital stock of \$1500.

Lulaton—Brick Works.—P. C. Miller, of Brunswick, Ga., will establish brick works at Lulaton.

Macon—Steamboat Company.—The Macon Navigation Co. has been chartered, with capital of \$10,000, to build boats and operate steamboat lines. Letters can be addressed in care of Marion Harris, attorney.

Savannah—Car Shops.—The Georgia Car & Manufacturing Co. has its shop buildings under roof, and the machinery is now being placed in position. The works are expected to commence operations in a few weeks; John J. McDonough, president.

Savannah—Telephone System.—Franchise has been granted for a telephone system to a company now organizing. The capital stock will be \$75,000 or \$100,000, and the incorporators are to be John T. Rowland, G. W. Owens, J. A. G. Carson, F. F. Jones, John Lyons. John T. Rowland can be addressed for information.

## KENTUCKY.

Covington—Mining Company.—V. P. Collins, B. W. Winter, George Glendon and others have incorporated the Kenton Mining & Development Co., with a capital of \$25,000.

Hanson—Flour Mills.—Edward and Eugene Stevens, of Madisonville, Ky., have leased and will operate the Hanson Flouring Mill Co.'s mills. The capacity will be increased.

Louisville—Train Sheds.—The Illinois Central Railroad will enlarge and extend its train sheds; W. J. Harahan, superintendent at Louisville.

Louisville—Cotton Mill.—The Louisville Cotton Mill Co.'s enlargement, noted last week, is intended for the accommodation of 3600 additional spindles. All the machinery required for the improvements has been secured.

Louisville—Gas Plant.—The Louisville Gas Co. will probably make extensive improvements to its plant. The company's general superintendent will recommend an expenditure of \$150,000 for new machinery, etc.

Russellville—Water Works.—The construction of water works is talked of. Report says that J. M. Dale is interested.

Somerset—Oil Refinery.—A dispatch says that a large oil refinery will be built in Somerset by the Consolidated Oil & Natural Gas Co., of Slickford, Ky. It is said that \$100,000 or more will be invested in the plant.

## LOUISIANA.

New Iberia—Water Works.—Construction of water-supply system is talked of. Address the mayor.

Shreveport—Stave Mill.—The Board of Trade has a proposition from the Red River Stave Co. for the erection of a \$100,000 stave mill, and will endeavor to meet the terms at once.

Washington—Water Works.—The city will construct a system of water works; A. J. Muller, mayor.\*

## MARYLAND.

Baltimore—Publishing Company.—Henry M. Wharton, Isaac S. Field and others have incorporated the Evangel Publishing Co., with a capital stock of \$10,000. The company will establish and conduct a printing and publishing business.

Baltimore—Undertaking Business.—James W. Armstrong, John F. Denny, Edward H. Fowler, M. H. Wagoner and Wm. H. Hill have incorporated the Armstrong-Denny Co., with capital stock of \$2500, to conduct an undertaking business.

Baltimore—Spring-water Company.—Wm. S. Hilles, Richard J. White and Robert H. Powell, of Baltimore, and others have incorporated the Bedford Springs Water Co., with a capital stock of \$5000.

Princess Anne—Saw and Grist Mills.—The Princess Anne Milling Co. has been formed to erect a saw mill, planing mill and grist mill; Isaac Calloway, president, and Chas. Lankford, secretary-treasurer.

Salisbury—Shirt Factory.—A \$40,000 stock company has been organized and will erect a brick building 30x200 feet, two stories high, for a shirt factory. One hundred and fifty sewing machines and steam-laundry equipment will be installed; will employ over 200 women; names of interested parties not yet announced.

## MISSISSIPPI.

Abbeville—Ice Factory and Cotton Gin.—A company has been organized, with a capital stock of \$10,000, to erect an ice factory of five tons capacity and a three 70-saw gin.

Grenada—Electric-light Plant and Water Works.—The city is now advertising for bids on the water works and electric-light plant. Bonds for \$40,000 were recently voted for the plants. Sewers will be built also; B. C. Adams, mayor.\*

Vicksburg—Woodworking Factory.—The Vicksburg Box Factory will erect a new building and put in machinery for the manufacture of bunks and coffins.

Vicksburg—Telephone System.—William Henry and associates, noted last week as securing telephone franchise, will equip system at once. Two hundred boxes will be put in at the start; will operate as the People's Telephone Co.

## MISSOURI.

Cardwell—Ginnery.—A. R. Byrd, A. Bertig, A. J. Milner and others have incorporated the Buffalo Island Ginning Co., with a capital stock of \$5000.

Charleston—Mercantile.—Sol Rosenstein and others have incorporated the Rosenstein Dry Goods & Clothing Co., with a capital stock of \$5000.

Kansas City—Coffee Company.—W. G. Hardcastle, H. H. Crowter, Frank G. Shryock and others have incorporated the Chalchijapa Coffee Co., with a capital stock of \$7500.

Kansas City—Butchers' Supplies.—A. G. W. Koch, Adolph Ettinger, Simon Grabenheimer and Sol. Ettinger have incorporated the Koch Butchers' Supply Co., with a capital stock of \$25,000.

Kirksville—Cannery and Candy Factory.—D. J. Elsea contemplates enlarging his candy factory and adding an equipment for canning fruits, etc.

Poplar Bluff—Steam Laundry.—E. H. Burr and William Mohnkern have established a steam laundry.

Poplar Bluff—Undertaking Company.—E. L. Johnson, H. G. Johnson and R. W. Colbert have incorporated the Johnson-Colbert Undertaking Co., with a capital stock of \$3000.

Springfield—Construction Company.—F. O. Hadley, C. P. Aills, L. T. Hunt and others have incorporated the Ozark Construction Co., with a capital stock of \$5000.

St. Joseph—Mercantile.—The Gardner Jewelry Co. has been incorporated, with capital stock of \$5000, by John T. Gardner, J. G. Schneider and others.

St. Louis—Ammonia Works.—Edw. Malinckrodt, Robert P. Green, J. C. Atwood and others have incorporated the St. Louis Ammonia Works, with a capital stock of \$20,000; purpose, to manufacture ammonia and its products.

St. Louis—Wagon Works.—Edw. J. Powers, James H. McCabe, P. H. Bierman and others have incorporated the McCabe-Bierman Wagon Co. for manufacturing purposes; capital stock \$11,200.

St. Louis—Land Company.—Samuel M. Kennard, T. Conzelman, O. L. Merzman and others have incorporated the Brandon Place Land Co., with capital stock of \$30,000.

St. Louis—Mercantile.—Moses Friedman and others have incorporated the M. Friedman Dry Goods Co., with a capital stock of \$5000.

St. Louis—Construction Company.—Louis E. Henner, Emil E. Henner and Fred C. Espenschied have incorporated the Star Construction Co., with a capital stock of \$2000, to conduct a general contracting business.

St. Louis—Ice Factory.—The Anheuser-Busch Brewing Co. is now at work on its new ice factory. The new plant will cost \$500,000, and its daily capacity will be 450 tons of ice. All contracts have been made for machinery.

St. Louis—Manufacturing Company.—Adolph Braun, J. W. Dodson and C. M. Forster have incorporated the Dodson-Braun Manufacturing Co., with capital stock of \$125,000.

St. Louis—Painting Company.—Thomas J. Quinn, David C. and George C. Chard have incorporated the J. T. Quinn Painting Co., with a capital stock of \$4000, to do a real estate and contracting business.

St. Louis—Car-brake Works.—H. A. Block, John D. Waldron, J. C. Sommerville, Wm. A. Orr and others have incorporated the Waldron Automatic Brake Handle Co., with a capital stock of \$250,000, to manufacture brake handles and other appliances for cars.

St. Louis—Mercantile.—Joseph Middelndorf, Clemens Middelndorf and Philip Snyder have incorporated the Snyder-Middelndorf Mercantile Co., with capital of \$2000.

St. Louis—Transfer Company.—G. L. Tansy, John Scullin, C. L. Dean and others have incorporated the St. Louis Transfer Co., with a capital stock of \$50,200, to conduct a general transfer business.

## NORTH CAROLINA.

Charlotte—Courthouse Improvements.—Bids will be wanted soon for improving Courthouse Square with cement walks, cement drives, granite curbing, retaining walls, fountain, etc. Frank P. Milburn is preparing plans.

Charlotte—Mercantile.—The M. C. Mayer Grocery Co. has been incorporated by M. C. Mayer, R. J. Brevard, J. G. Bryce and others to continue the established business of M. C. Mayer & Co. Capital stock is placed at \$35,000.

Hickory—Flour Mill.—A. A. and E. L. Shuford are reported as to equip a flour mill; also a hames factory.

Maxton—Electric-light Plant.—A. J. Cottingham contemplates installing an electric-light plant in his planing mill.\*

## SOUTH CAROLINA.

Beaufort—Knitting Mills.—The Beaufort Knitting Mill Co., recently reported as incorporated, will establish mills at once. Hosiery and underwear will be the product; no machinery purchased yet; will also put in a dyeing plant. Address care of R. A. Long.\*

Cades—Saw Mill.—S. J. Cameron, of Effingham, S. C., will erect the saw mill reported last week.\*

Charleston—Power-house.—The Charleston Street Railway Co. has awarded contract to Henry Oliver for the erection of the building for its electric plant. Work will be commenced at once.

Latta—Telephone Lines.—Alex. J. and Julian J. Murchison have incorporated the Murchison Telephone Co., with a capital stock of \$1000, to construct a line from Latta to Bennettsville.

## TENNESSEE.

Chattanooga—Brewery, etc.—The Chattanooga Brewing Co. has commenced the contemplated improvements to its plant. About \$30,000 will be expended. A new bottling plant will be included in the additions.

Clarksville—Electric-light Plant.—A company is being organized to supply the city with electricity for lighting. It is said that \$10,000 is to be the capital stock. Thomas Bourne can possibly give information.

Jamestown—Oil Wells, Pipe Lines, etc.—The oil company heretofore referred to has obtained charter as the Phoenix Oil Co., its purposes being the drilling of oil wells, laying of pipe lines, etc. The company ex-



pects to have not less than 100,000 acres of oil leases as a basis of operations. The capital stock will be fixed at \$5,000,000. L. T. Smith, president, can be addressed.

Jonesboro—Woodworking Factory and Electric-light Plant.—R. Frank Wells is now arranging for the equipment of a small woodworking factory and electric-light plant for town lighting.\*

Martin—Electric-light Plant and Water Works.—The city has authority now to issue bonds for water works, as heretofore stated. An election to decide the question definitely will be held at once. Plans and specifications will be wanted. The erection of an electric-light plant is also in contemplation. For further particulars address J. E. Kennedy, mayor.

Newport—Woodworking Plant.—A. H. Ordway & Co. will not erect a chair factory, as heretofore reported, but they contemplate installing a plant for getting out chair stock. Messrs. Ordway & Co. are of South Framingham, Mass.

Tullahoma—Soap Factory.—H. Jacobs is endeavoring to organize a company to extend his soap manufacturing business and to manufacture a cleansing soap and leather lubricant.

Watertown—Soap Factory.—Mr. Young, of Watertown, and Mr. Moore, of Nashville, have organized as Young & Moore, and will establish a soap factory; capital to be invested, \$6000.

#### TEXAS.

Bridgeport—Coal Mines.—The coal company recently reported as forming has chartered as the Rock Island Coal Co., with a capital stock of \$25,000, to open mines, etc.; incorporators, J. O. Morrison, G. H. Crittenden and A. W. Jenkins.

Fort Worth—Live-stock Company.—S. R. Williams, P. M. De Vitt and W. L. Fuller have incorporated the Texas Live-Stock Commission Co., with a capital stock of \$25,000; purpose, to deal in and raise live-stock.

Goodrich—Bridge.—The Houston, East & West Texas Railroad Co. will build a new bridge to replace the present one across the Trinity river near Goodrich. M. G. Howe, general manager, Houston, Texas, can be addressed.

Hillsboro—Fire Department.—The O. J. Morris Hose Co. has been organized, with D. W. Campbell, secretary.

Houston—Packing Plant.—A company proposed the establishment of a pork and beef-packing plant, and it is reported that a site of twenty acres for the plant has been sold by Col. William Hunter.

Hutto—Ginnery.—Holman & Short will build a cotton gin to replace one burned last year. Work is now in progress.

Richmond—Creamery.—John and Joseph Newman, of Elgin, Ill., contemplate the erection of a large creamery in Richmond.

Sanger—Flour Mill.—A company is being organized to build a roller flour mill. No names have been mentioned in connection with the enterprise as yet.

Seguin—Cottonseed-oil Mill.—The Seguin Cotton Oil Co. has been chartered, with capital stock of \$40,000, to erect and operate a cottonseed-oil mill. The incorporators are Helena and Harry Landa and Gus Talle.

Stephenville—Water Works.—The construction of a water-works system is talked of. The mayor can be addressed.

Taylor—Iron Foundry.—The Temple foundry will remove its plant to Taylor. Forty men are employed in the works.

Texarkana—Mercantile.—J. C. Watts, M. D. Tilson and others have incorporated the Mullins Co., with a capital stock of \$25,000.

Thurber—Brick Works.—The Green & Hunter Brick Co. has been incorporated by Robert D. Hunter, James Green, Moses Rumsey, Robert H. Ward and S. Mims, with a capital stock of \$100,000; purpose is to manufacture brick, tile, tubing, etc.

Vernon—Mercantile.—B. J. Parker, W. H. Kelley and R. S. Kelley have incorporated the Vernon Hardware Co., with a capital stock of \$5000.

Wharton—Flour Mill.—Endeavors are being made to form a company to erect a flour mill. Possibly H. B. Garrett can inform as to the interested parties.

Woodville—Saw Mill.—Amos J. Hodges will build a saw mill.\*

Zapata County—Salt Deposits.—A dispatch from Kansas City, Mo., says that capitalists of that city have purchased and will develop salt deposits in Zapata county, fifty miles from San Antonio. Mines have been opened in a primitive fashion at the property, but the new owners will introduce modern methods.

#### VIRGINIA.

Cambridge—Electric-light Plant.—The erection of an electric-light plant is talked of. Rumor mentions James Rigby in connection with the project.

Norfolk—Electric Plant, etc.—The Old Dominion Steamship Co. will improve its new sheds, add an electric-light plant, fire equipment, etc.

Norfolk—Bridge.—The New York, Philadelphia & Norfolk Railroad will construct an \$85,000 bridge across the Southern branch at Norfolk; A. J. Cassatt, president, 23 South 15th street, Philadelphia, Pa.

Norfolk—Rubber Company.—A charter has been granted to the Crude Rubber Co., whose purposes are to conduct a general export and import business between the United States and all foreign ports; to purchase and sell in the United States and abroad rubber manufactured and unmanufactured. The capital stock is to be not less than \$1,000,000 nor more than \$5,000,000. The principal office is to be in Norfolk. The officers for the first year are Claude S. Dearborn, of Rye, N. Y., president; Henry E. D. Jackson, of New York city, vice-president and treasurer; Charles M. Bull, of Brooklyn, N. Y., secretary; directors, the above and William A. Young and James W. Wilcox, of Norfolk.

Richmond—Tailoring Company.—The Richmond Ladies' Tailoring Co. has been incorporated, with capital stock of \$25,000; Mrs. M. Fuson is president; J. Graham Davidson, vice-president, and B. D. Adams, secretary.

#### WEST VIRGINIA.

Kenova—Machine Shop, etc.—The Norfolk & Western Railway Co. will build a new roundhouse, machine shops, etc., at Kenova. Considerable expenditures will be made during the year, replacing trestle work by solid embankments, iron viaducts, etc.; Henry Fink, president, Roanoke, Va.; division superintendent, D. H. Barger, at Kenova.

St. Mary's—Electric-light Plant.—The erection of an electric-light plant is contemplated. O. H. Suck can give information.\*

Wheeling—Tin Mill.—The Riverside Iron Works writes that the report that it will erect a tin mill is erroneous.

#### BURNED.

Baltimore, Md.—The Baltimore Biscuit Co.'s factory; loss on stock and machinery \$40,000.

Cave City, Ky.—Flour mill and grain elevator owned by C. G. Clark.

Luverne, Ala.—The county courthouse; loss about \$20,000.

Marshall, Mo.—Grain elevator of McMahan & Page; loss \$15,000.

Monroe, La.—The Monroe Opera House; loss about \$10,000.

#### BUILDING NOTES.

Alexandria, La.—Office Building.—The Rapides Bank will erect a two-story pressed-brick bank building.

Athens, Ga.—Warehouse and Store.—Billups Philizy will erect a cotton warehouse, as stated last week. The structure will be 50x125 feet in size, four stories high, and cost \$18,000. Hydraulic elevator will be put in.

Athens, Ga.—University Building.—Plans by Bruce & Morgan, of Atlanta, Ga., have been selected for the scientific building, University of Georgia. As soon as specifications are completed bids will be advertised for.

Atlanta, Ga.—Dormitory.—Plans by Bruce & Morgan have been selected in competition for the technological dormitory. Bids will be invited next week.

Atlanta, Ga.—Business Building.—Hemphill & Osborne will erect a \$6000 one-story brick and stone building.

Baltimore, Md.—Church.—The Church of the Holy Innocents will have plans by J. E. Laferty for its \$5000 rectory, noted last week.

Baltimore, Md.—Theatre.—James L. Kernan has let contracts for the enlargement of the Howard Auditorium. A new building three stories high will be erected, connected with the present building. About \$15,000 will be expended.

Charlotte, N. C.—C. F. and James W. Wadsworth contemplate the erection of a three-story brick building.

Charlotte, N. C.—Office Building.—The Piedmont Insurance Co. will erect an office building. Several plans have been submitted. Address Furber Jones.

Charlotte, N. C.—Theatre.—Postmaster Robertson and associates are figuring on the erection of the proposed opera-house. Frank P. Milburn has prepared plans.

Greensboro, N. C.—Dwelling.—E. J. Stafford will build a dwelling.

Huntsville, Ala.—Jail.—Plans, specifications and bids for the jail recently reported will be opened March 15. The structure is to cost from \$20,000 to \$25,000, and to accommodate about 100 prisoners. Address S. M. Stewart, judge of probate.

Lexington, N. C.—Hotel.—Contract for erecting the hotel noted last week has been let to Cecil & Harben, of Charlotte, N. C., at \$8500. The building will be three stories high, and have twenty sleeping-rooms.

Lynchburg, Va.—Office Building.—The First National Bank will erect an office building two stories high, 28x75 feet, after plans being prepared by E. G. Frye.

Louisville, Ky.—Stores.—Clark & Loomis will prepare plans for four stores, 75x100 feet, for B. Bernheim.

Louisville, Ky.—Warehouse.—The American Tobacco Co. will build an addition 76x140 feet, three stories high, for warehouse, after plans by D. X. Murphy & Co.

Louisville, Ky.—Warehouse.—The Tobacco Warehouse & Trading Co. will build a 170x100-foot warehouse after plans now being prepared by Mason Maury, architect.

Nashville, Tenn.—Exposition Building.—Contract has been let to George Moore & Sons at \$29,200 for the erection of the government building at the Tennessee Exposition.

New Orleans, La.—Office Building.—The Great Southern Telephone & Telegraph Co.'s new office building, recently noted, will be five stories high, and have heating plants, electric system, workshop for repair of 'phones, new exchange room, etc. Contract for building has been awarded to Murdoch, Campbell & Co., of Chicago.

New Orleans, La.—Dwellings.—Permits issued for \$1500 cottage to Pierre Attler; for \$2200 cottage to W. W. Thompson; for \$3000 cottage to Miss L. Kenny.

Norfolk, Va.—Depots, etc.—The Norfolk, Virginia Beach & Southern Railroad will build passenger and freight depots and construct terminals at Norfolk; Alfred Skitt, president, 3 Beaver street, New York city.

Richmond, Va.—Hotel.—E. E. Taylor is organizing a company to build a hotel.

Seabrook, Texas—Hotel.—The Seabrook Co. will build a hotel, and Col. S. B. Sydnor, of Houston, has been authorized to ask for plans.

Shreveport, La.—Hotel.—Contracts have been awarded for the erection of a hotel on Texas avenue. The structure is to be three stories high, heated by steam and have electric lights, elevators, etc.

St. Louis, Mo.—Church.—The Church Extension and City Missionary Society of the M. E. Church contemplates the erection of a church edifice to cost \$75,000.

Thibodaux, La.—Bank Building.—The Bank of La Fourche will erect an office building.

Versailles, Ky.—Theatre.—E. R. Dawson, John Rome, E. M. Wallace and others will form a company to build a \$10,000 opera-house.

Washington, D. C.—Apartment House.—N. T. Haller has obtained permit for the erection of the \$150,000 apartment house recently reported.

Wharton, Texas—Business Building.—H. B. Garrett has contracted for the erection of a business building 77x70 feet.

Wilmington, N. C.—Store.—F. A. Newbury will erect a brick store building; iron front, glass (plate) windows, etc.

#### RAILROAD CONSTRUCTION.

##### Railways.

Atlanta, Ga.—J. S. James and others, of Douglasville, Ga., are promoting an electric road between Atlanta and Douglasville. The distance is twenty miles.

Augusta, Ga.—The Augusta Southern has been leased to the South Carolina & Georgia road perpetually. It is reported that the former may be extended to Macon, giving the South Carolina & Georgia a route from Charleston to Macon. Charles Parsons, 15 Broad street, New York, is president of the South Carolina & Georgia.

Blacksburg, S. C.—Prest, Samuel Hunt, of the Ohio River & Charleston road, advises the Manufacturers' Record that the branch of the road between Blacksburg and Gaffney, S. C., is to be commenced in the near future. It will be about ten miles long. Mr. Hunt's address is Cincinnati, Ohio.

Brenham, Texas.—Vice-President William Muir, of the Southwest Texas Railroad Co., advises the Manufacturers' Record that the line will be built from Brenham to Corpus Christi, Texas, thence to Eagle Pass, Texas, a distance of 550 miles. Dr. James Kerr, of Washington, D. C., is president; William Muir, 124 Warren street, New York, vice-president; George M. Edgerton, Corpus Christi, Texas, general manager; Davenant Rodger, New York, treasurer; L. J. Wortham, Austin, Texas, secretary; J. S. Peters, Corpus Christi, Texas, engineer. D. Rodger, engineer of the Manhattan Construction Co., of New York, has the contract, and is to begin work on the line about April 1.

Columbus, Ga.—It is reported that the Columbus & Greenville branch of the Central of Georgia system, fifty miles long, will be changed to standard gage. H. M. Comer, at Savannah, Ga., is president.

Coproe, Texas.—Negotiations are under way with the view of selling the Texas, Louisiana & Eastern to the Gulf, Colorado & Santa Fe, and extending it to Beaumont, Texas. The line is completed for a distance of thirty miles east of Conroe. The extension would be about fifty miles in length. Samuel Lazarus, at Conroe, is general manager.

Donaldsonville, La.—It is announced that contracts have been let to R. M. Quigley & Co., of St. Louis, for the construction of the proposed road between Donaldsonville and Thibodaux, La., by way of Napoleonville. It will connect with the Southern Pacific system at Thibodaux, and will be forty-four miles long. A line of steamers will be operated between New Orleans and Donaldsonville in connection with the new line. The railroad company is termed the Mississippi River & La Fourche. R. W. Edwards is president. His address is Lauderdale, La.

Elba, Ala.—Final surveys are being made for the proposed branch of the Plant system from Newton to Elba. The distance is twenty-four miles. S. G. McLendon, of Thomasville, Ga., is president of the branch of the Plant system concerned.

Frierson, La.—Several parties at Frierson, including J. D. Wilkinson and H. C. Stringfellow, are promoting a road from Frierson to Coushatta, to be a branch of the Kansas City, Shreveport & Gulf system. The branch would be about thirty miles long.

Greenville, Ga.—It is stated that a company is being formed in Greenville to build a line four miles long to connect Greenville with the Macon & Birmingham road.

High Springs, Fla.—The Ambler Lumber Co., which has obtained control of the Atlantic, Suwannee River & Gulf road, advises the Manufacturers' Record that the extension to High Springs has not as yet been determined on.

Kingwood, W. Va.—It is reported that the road promoted by the company of which J. Ami Martin is vice-president, will be built to Morgantown by September 1 over what is termed the "Black Bottle Route." The new line will be about twenty miles long.

Norfolk, Va.—Work of changing the gage of the Norfolk, Virginia Beach & Southern road to standard has begun. It is expected to complete the work by May 1. B. P. Holland, superintendent, may be addressed.

Petersburg, Va.—The parties who are desirous of securing the Petersburg, Virginia & Carolina franchise from the city of Petersburg are Dewitt Smith and General James Negley, of New York. Mr. Smith, through General Negley, offers to complete the road if given the right of the city in it, and to pay the city \$100,000 in bonds of the line. The road would be about sixty miles long.

Queenstown, Md.—It is announced that the contract for the last section of the Queen Anne's Railroad has been let and that work on it is to begin at once. The last section is from Ellendale to Lewes, Del. J. W. Troxel, at Queenstown, is chief engineer.

Worth, Ga.—The Hawkinsville & Florida Southern road, now completed from Pitts to Worth, Ga., it is stated, will be built to Fitzgerald. J. W. English and William B. Lowe, of Atlanta, are interested in the company. The Fitzgerald branch will be fifteen miles long, and will extend from Davisville to Fitzgerald. About five miles of the line are completed.

##### Street Railways.

Baltimore, Md.—The Falls Road Electric Railway Co. has secured the franchise from the city to build its proposed electric road. The line will be about seven miles long and double track, with one or two short branches. George R. Webb, Equitable Building, Baltimore, may be addressed.

Berkley, Va.—It is reported that a company has been formed to build a street railway line in the town.

Berkley, Va.—T. H. Synon is president of



the company constructing the electric street railway. Work has begun on it.

St. Louis, Mo.—J. D. Peckington, Charles E. Wehner and others have incorporated the Shaw Avenue Railway Co. to build an electric line on the avenue named. The capital is \$40,000.

### Machinery, Proposals and Supplies Wanted

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.**

Belting.—The Talladega Milling Co., Talladega, Ala., will want belting.

Bicycles.—J. E. Minter, 128 Park Place, Macon, Ga., wants to correspond with manufacturers of bicycles.

Boiler and Engine.—The Talladega Milling Co., Talladega, Ala., will want a fifty or eighty horse-power engine and boiler.

Box Machinery.—M. Armstrong, Velasco, Texas, wants machine for folding and nailing fruit boxes.

Broom Machinery.—The Spring City Broom Works, Huntsville, Ala., wants prices on broom machinery and gasoline engine for running same.

Building Materials.—G. R. Prentice, Angleton, Texas, wants prices on bathtubs, closets, sinks, hot-water reservoirs, faucets, plumbers' supplies, etc.

Building Materials.—Building materials, such as plate glass, window glass, Bereham slate, paints, oils, locks, hinges, etc., will be wanted for hotel at Lexington, N. C. Address W. L. Harbin.

Canning Machinery.—"Packer" 506, Sun Office, Baltimore, Md., wants a second-hand rotary pea huller in good condition and at low price.

Castings, etc.—Bids will be opened March 5 for furnishing and delivering about 400,000 pounds of bell and spigot-end special castings, 270,000 pounds of flange-end special castings for water mains; bell-end specials to be delivered in approximately 60,000-pound lots, flange-end specials to be delivered in one lot. Specifications can be obtained at office of chief engineer water board, City Hall, Baltimore, Md.; Nicholas S. Hill, Jr., engineer.

Coffee Grinders, etc.—W. W. Lewis, Vicksburg, Miss., wants to correspond with makers of coffee grinders and roasters.

Electric-light Plant.—See "Water Works" bid noticed below.

Electric-light Plant.—A. J. Cottingham, Maxton, N. C., may possibly want electric-light machinery within the next few months.

Electric-light Plant.—The city of Martin, Tenn., may possibly want estimates on electric-light plant in the future. For particulars address J. E. Kennedy, mayor.

Electric-light Plant.—O. H. Suck, St. Mary's, W. Va., wants bids on electric-light plant of twenty-five arc lights and 300 sixteen candle-power incandescent lights; wants everything but engine.

Electric-light Plant.—R. Frank Wells, Jonesboro, Tenn., will need an electric machine for 300 incandescent and fifteen arc lights.

Elevator.—Hydraulic elevator will be installed in new cotton warehouse to be built at Athens, Ga., by Billups Phinizy.

Engine.—The Talladega Milling Co., Talladega, Ala., wants a fifteen or twenty horse-power engine.

Engine.—C. L. Farham, Avon Park, Fla., wants a small marine engine, ten horse-power or less. State cost of running, weight, floor space required and other particulars.

Excelsior Machinery.—Fred Meyer, Second and Liberty streets, New Orleans, La., wants information and prices of excelsior machinery. Give full particulars regarding power required, etc.

Farming Implements.—J. A. McIver, Blitchton, Fla., wants to buy threshing machine, reapers and binders.

Flour Mills.—The Talladega Milling Co.,

Talladega, Ala., will want a packer and crusher for meal mills; also covering for meal bolt.

Gas or Gasoline Engine.—The Spring City Broom Works, Huntsville, Ala., wants prices on gas or gasoline engine for operating broom machinery.

Knitting Machinery.—Luther E. Moore, Marietta, Ga., and W. W. Harvey, Constantine, Mich., each wants full information regarding knitting machinery for manufacturing hosiery.

Knitting Machinery.—The Beaufort Knitting Mill Co., Beaufort, S. C., will buy machinery for knitting hosiery and underwear.

Machine Tools.—The Pomona Terra Cotta Co., Pomona, N. C., wants prices on a good second-hand iron lathe, swing not less than thirty-six inches.

Machine Tools.—The Talladega Milling Co., Talladega, Ala., wants a bolt cutter (bolt and pipe combined).

Phosphate Machinery.—Wanted, a mixer for acid phosphate; also a disintegrator. State price, capacity and maker of each and how long used. Address P. O. Box 542, Syracuse, N. Y.

Printing.—Simpson & Simpson, Glenn Springs, S. C., want to correspond relative to contracting for stationery and circular printing.

Railway Equipment.—S. J. Cameron, Effingham, S. C., will want small locomotive and rails for tramway.

Saw Mill.—Amos J. Hodges, Woodville, Texas, wants prices on saw mill.

Saw Mill.—S. J. Cameron, Effingham, S. C., will want later on planing machinery.

Sewer System.—See "Water Works," etc., noted below.

Smoking-pipe Machinery.—See "Woodworking Machinery."

Soap Machinery.—The Dawson Oil Co., Dawson, Ga., wants catalogues, prices, etc., of machinery for making cheap laundry soaps.

Sulphur-acid Plant.—The Columbia Guano Co., Norfolk, Va., wants estimates for building a complete acid plant.

Telephone Equipment.—E. & B. Smith, Selmer, Tenn., want sixty miles of No. 12 galvanized wire, insulators and side blocks, and six long-distance telephones.

Typewriter.—G. W. and C. M. Wall, Wallburg, N. C., want a typewriter.

Water Works.—Plans and specifications on water-works system will be wanted. Address J. E. Kennedy, mayor, Martin, Tenn.

Water Works.—The city of Washington, La., will receive bids until March 16 for the construction of a system of water works; Robert R. Zell, of New Orleans, superintendent engineers. Address August J. Muller, mayor.

Water Works and Electric-light Plant.—The city of Grenada, Miss., will open bids March 11 for the construction of water works and electric-light plant; \$40,000 voted for the work. Material required for the water plant will be 600 tons cast-iron pipe and specials, forty-six fire hydrants and forty gate valves and boxes, twelve ninety horse-power boilers, with heater and feed pump; two compound duplex horizontal pumps of 750,000 gallons capacity each; steel standpipe of 140,000 gallons capacity, powerhouse and pump well. Material for electric-light plant will be one Corliss engine, forty horse-power, with jack shaft, pulleys, etc.; one 1000-light incandescent and one 40-arc-light dynamo, with all station and pole-line equipments. For pipe sewers, 10,000 feet pipe sewers, twelve to six inches in diameter, with necessary Ys, Ts, flush tanks, manholes, etc. Check equal to 3 per cent. of bid must accompany proposals. Plans can be seen and specifications secured from secretary of board of aldermen, Grenada; B. C. Adams, mayor; W. F. Hallam, clerk; Sanders & Porter, engineers, Louisville, Ky.

Well-drilling Machinery.—The Velasco Milling Co., Velasco, Texas, wants the latest and best appliances for removing water, sand and rock out of casing sunk in river beds, etc.

Woodworking Machinery.—See "Box Machinery."

Woodworking Machinery.—The Maysville Manufacturing Co., Maysville, Ga., wants a small single or double surfacer.

Woodworking Machinery.—J. T. Dudley, Box 36, Bennettsville, S. C., is in the market for a complete equipment for the manufacture of briar-root pipes.

A Lumber Expert.—Mr. B. W. Sweet, timber estimator and mineral prospector, has established his headquarters in Room 22, Minnis Block, Knoxville, Tenn.

### TRADE NOTES.

To Prevent Dripping.—James Bonar & Co., steam appliances, Pittsburg, Pa., have devised the Bonar gauge cock to avoid dripping and regripping.

Improved Gln.—A new catalogue of leather splitters and rollers issued by the Carver Cotton Gln Co., of East Bridgewater, Mass., will be sent to all persons who apply for it there.

Formed a Partnership.—Messrs. Atwood Violett and Henry B. Lockwood have formed the firm of Atwood Violett, Lockwood & Co. for banking and general brokerage, Johnston Building, New York.

Special Brass Union.—The extra heavy union for high-pressure service made by the Nolte Brass Co., of Springfield, Ohio, is used for steam, water, gas and other connections where a tight joint is required.

Changed the Offices.—O. W. Clapp & Co., brokers, have removed their offices from the Mills Building to 56 New street, New York, convenient to the various exchanges and with private wires to the Western exchanges.

Trolley Track.—Messrs. F. H. Davidson & Co., of Baltimore, Md., have become the Southern sales agents for the Coburn Trolley Track Manufacturing Co., of Holyoke, Mass., and all orders will be promptly shipped from Baltimore on factory terms.

Formed a Company.—A company known as the Williams Patent Crusher & Pulverizer Co. has been formed at St. Louis, Mo., with a capital stock of \$16,000, to manufacture more extensively the combined crusher and pulverizer made by Milton F. Williams & Co.

Chains by the Mile.—The plant of the Bridgeport Chain Co., Bridgeport, Conn., has a capacity for turning out more than ten miles of finished product each working day. It makes metal chains in great variety, from the smallest to the largest size, all being made by automatic machinery from cold formed metal. A circular with illustrations will be sent to all interested in metal chains on application to the office of the company.

Water-proof Belting.—In addition to their "Cocheo," "Superior," "Defiance" and "Dynamo" brands of leather belting, Messrs. I. B. Williams & Sons, of Dover, N. H., are making a water-proof one that will readily shed water. They apply to it a coating of their own invention, making it thus impervious to dampness. It is valuable for use in saw mills, dyehouses, bleacheries, paper mills, brick-yards, mines and all damp places.

Foreign Trade Growing.—The foreign trade of the De Loach Manufacturing Co., of Atlanta, Ga., is rapidly growing, largely through the efforts of its New York office. It is now shipping an engine, boiler and saw-mill outfit to San Salvador, Central America, and a saw mill and water wheel to San Jose, Costa Rica, and five other saw mills have been ordered for export, besides twenty saw mills and planers in fifteen different States.

Expert Investigations.—Dr. Wm. B. Phillips, Birmingham, Ala., has opened an office at 311 Chalfoux Building for the examination of mining property, reporting on technical processes, such as coal-washing, saving of waste products, etc., and the promotion of legitimate industrial enterprises. He has had an experience of twenty years with all kinds of mining property, and for the last several years has been consulting chemist for one of the largest iron companies in the country.

For a Full Equipment. The order for the entire engine equipment of the new station of the Scranton Illuminating, Heat & Power Co., to be built on the site of the old station, recently destroyed by fire, has been given to the American Engine Co., of Bound Brook, N. J. The equipment will consist of six American-Ball engines, five of which will be compound and one simple. Direct-connected generators will be used on four of these engines, and the station will be modern in all its appointments.

Copper Ore Discovered.—Copper ore, claimed to be of a high grade, has recently been discovered on land owned by Venable & Co., of Marion, Va. The land is three miles east of Marion and within a quarter of a mile of the Norfolk & Western Railroad. Indications point to a very large quantity of the ore, which, it is said, analyzes 21 to 45 per cent. of oxide of copper. It runs with small quantities of zinc and nickel, and has

been traced for 300 yards leading east and west on the side of a hill, about fifty feet from the top. Messrs. Venable & Co. have begun to develop the mine, but are seeking to interest other persons in its full development.

Preparing for Spring.—Messrs. Hensch & Dromgold, of York, Pa., are very busy filling orders for their spring-tooth harrows, corn planters, cultivators, etc. On the 25th they shipped two carloads of harrows and cultivators to Rockland, N. Y., and one carload to Baltimore, besides a large number of local shipments during the week. They will also ship three or four carloads the beginning of next week. Their lever wheel harrows are finding a ready sale all over the United States, as well as in foreign countries.

Large Sales of Dry-kilns.—The Emerson Co., of Baltimore, Md., manufacturer of the Emerson "automatic compression dry-kiln," has just closed the following contracts:

Elizabeth City Lumber Co., Elizabeth City, N. C., three 100-foot kilns.

Watson Lands Lumber Co., Mayburgh, Pa., one 85-foot kiln.

Dixie Mill Co., Mobile, Ala., two 100-foot kilns.

Main & Co., Norfolk, Va., one 70-foot kiln.

Roanoke & Chowan Lumber Co., Tunis, N. C., one 110-foot kiln.

Charleston Lumber Co., Charleston, W. Va., one 68-foot kiln.

Cummer Co., Jacksonville, Fla., four 100-foot kilns.

Heavy Export Machinery Trade.—The board of directors of the Davis & Egan Machine Tool Co., of Cincinnati, held their annual meeting Saturday, February 20, and elected the following officers for the ensuing year: Charles Davis, president; W. H. Burtner, vice-president and treasurer; B. B. Quillan, secretary. They declared a dividend of 3 per cent. out of the earnings of the past three months. The company reports having done a very heavy foreign business during the past six months, and to have added to its shop equipment some \$34,000 worth of machinery. It has made many important alterations in its buildings, and is now erecting a large warehouse at the corner of Sixth, Eggleston avenue and Lock streets, in which to store all surplus tools as soon as a lot is finished, which will give hundreds of feet of floor space in its regular shops for manufacturing purposes, heretofore used as storage.

Hauling by Electricity.—The Moon Run Coal Co., of Moon Run, Pa., is about to install an electric-haulage plant in its colliery, and to this end has contracted with the General Electric Co. for electrical equipment sufficient to operate a mine road with over three and one-half miles of track. The generating station will consist of one 165-kilowatt 250-volt generator, directly connected to a Harrisburg Ideal engine 18½x16 inches. These, with the switchboard, will be set up in the present power-house, which at present contains an air-compressor plant for the operation of certain pick machines. The inside haulage will be handled by one 10-ton mining locomotive, equipped with forty horse-power motors. This will haul forty loaded cars per trip, each loaded car weighing about two and one-half tons. There will be over three and one-half miles of trolley wire in the mines, with the necessary feeders. The economical showing exemplified by the results obtained in the many other mines now using the General Electric Co.'s system of electric haulage proved conclusively the advantage which would accrue to the Moon Run colliery by the introduction of electricity.

### Modern Marine Machinery.

Complete outfits in either single or twin screw, side or stern paddle wheel machinery, built by Marine Iron Works, No. 9 Dominick street, Chicago. Catalog free.

Agents wanted to handle our improved "Chemical" Fire Extinguisher. Spangler Manufacturing Co., York, Pa.

The recent purchase of 58,000 tons of 80-pound steel rails by the receivers of the Baltimore & Ohio Railroad Co., at a cost of about \$1,000,000, is another evidence that Messrs. Cowen & Murray intend placing the B. & O. in first-class physical condition. It is understood that these rails will be placed in the track as soon as possible, and that by full the tracks between Baltimore and the Ohio river will practically be entirely relaid with new steel and new oak ties. As fast as the old rail is taken up it will be relaid on the less important branches or used in extending much needed side tracks.



## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for this page.

## To Refund \$10,000,000 in Bonds.

It is reported that the St. Louis, Iron Mountain & Southern Railroad Co. has arranged to refund an issue of \$4,000,000 in 5 per cent. bonds and \$6,000,000 of 7 per cent. second mortgage bonds of its indebtedness on the following basis: The bonds are to be extended for fifty years, the first at 4½ per cent. and the others at 5 per cent. They will be redeemable at 105 and interest on six months' notice.

## New Corporations.

William Kline, Augustus Borman and others have formed the Industrial Safety Deposit Co. at New Orleans, with \$100,000 capital.

The North Point Building and Loan Association of Baltimore has been incorporated by F. Sinclair, George W. Morris, Harry W. Heckratte, W. Stewart Brown and William H. Schilling. The capital stock is \$650,000.

The Bank of La Fourche, of Thibodaux, La., has elected the following officers: Elles Braud, president; W. H. Ragan, Sr., vice-president, and Kleber J. Braud, cashier. It will not begin operations until a building is erected for the institution.

## New Securities.

The city of Martinsburg, W. Va., it is reported, may issue \$50,000 in bonds. Address the mayor.

The town of Wetumpka, Ala., has been authorized to sell \$10,000 of school bonds. Address the town clerk.

The town of Grenada, Miss., will receive bids until March 10 for \$66,000 in improvement bonds. Address the town clerk.

The town of Port Gibson, Miss., will sell \$20,000 worth of 6 per cent. water works bonds, and will receive bids until March 15. Address Thomas M. Rea, city clerk.

The stockholders of the City Passenger Railway Co., of Baltimore, have taken the entire issue of 4 per cent. debenture bonds issued to fund certain indebtedness of the company.

The issue of \$62,000 in 4 per cent. refunding bonds of the city of Augusta, Ga., has been sold to purchasers in three lots at a price slightly above par. The buyers were Clarence E. Clark, Bowdre Phinizy and John J. Cohen, all of Augusta. The sale was made at the highest price ever obtained for Augusta securities bearing the same rate of interest.

## Dividends and Interest.

The Home Permanent Building Association of Portsmouth, Va., has declared a dividend of 10 per cent. for the past year.

Coupons on first mortgage bonds of the Chesapeake Light & Power Co. will be paid at the Guardian Security, Trust & Deposit Co. of Baltimore.

The following March interest payments will be made by Baltimore corporations: Baltimore Traction Co., 6 per cent. bonds, by Hamilton & Co.; Lake Roland Elevated Railway Co., 5 per cent. bonds, by Alexander Brown & Sons; Virginia Midland Railway bonds, by the Safe Deposit & Trust Co.

The following interest coupons are

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payable at the office of the Mercantile Trust & Deposit Co. of Baltimore: Aniston Gas & Light Co. 1st 6s, Eigenbrot Brewing Co. 1st 6s, Montgomery Terminal Co. 1st 5 per cent. certificates, Seaboard & Roanoke and Raleigh & Augusta Railroad Car Trust 5s, Monongahela River Railroad Car Trust 6s, and city of Winston (N. C.) 5s.

## Financial Notes.

The City Savings Bank of Knoxville, Tenn., has re-elected its present officers, who are as follows: President, I. B. Merriam; vice-president, G. H. Jarnagin; cashier, C. E. Stivers.

New Machine Tools.—Illustrations of new and special machine tools are given in catalogue N of the Hilles & Jones Co., of Wilmington, Del. It is not intended for a general catalogue, but presents a few of the company's more recent designs for working iron and steel plates, bars and structural shapes. The half-tone engravings are of especial interest for boiler-makers, bridge, car, locomotive, iron-ship builders and workers in iron generally.

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OF BALTIMORE.

Paid-up Capital, \$1,000,000.

Surplus, \$1,000,000.

DEPOSITS RECEIVED  
On which interest is allowed, governed by current rates obtainable.

TRUSTEES AND ADMINISTRATORS.

This company is a *Legal Depository* for funds in the hands of Trustees or Administrators, and allows interest on same pending distribution.

Authorized to act as Executor, Administrator, Guardian, Receiver or Trustee.

ACTS as Trustee of Mortgages of Corporations and accepts Transfer Agency and Registry of Stocks.

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Suppose you write for particulars about

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This company owns and is now opening up rich gold mines in the famous Leadville Gold Belt of Colorado. The officers and stockholders of the company are not speculators but are well-known conservative business men. Here are some of them:

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The stock of this company has been listed on the New York Mining and Industrial Exchange. The office of the company is at 849 Equitable Building, Baltimore, Md.

The treasury stock now being offered affords an investment opportunity that is well worth looking into.

The Big Union Mines, the property of this company, lie on the same contact vlen with the most noted of the great Leadville mines. One of these the "Little Johnny" is the greatest gold mine in Colorado and perhaps in the world. Its present output is about \$300,000 per month. It paid last year \$1,600,000 in dividends and is now paying monthly dividends of \$100,000 to \$200,000.



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<b>Beach, H. L.</b> ..... 2	<b>Davis Coal &amp; Coke Co.</b> ..... 8	<b>Huther Bros.</b> ..... 27		<b>Smith, R. B.</b> ..... 20
<b>Beach, H. L.</b> ..... 2	<b>Davis-Farrar Co.</b> ..... 40		<b>O</b>	<b>Smith, R. B.</b> ..... 20
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<b>Beckley, A. J., &amp; Co.</b> ..... 8	<b>Dean Bros. Steam Pump Works</b> ..... 40	<b>Ingersoll-Sergeant Drill Co.</b> ..... 22	<b>Old Dominion Line</b> ..... 42	<b>Smith, R. B.</b> ..... 20
<b>Benjamin, O. P., Mfg. Co.</b> ..... 2	<b>Defiance Machine Works</b> ..... 6	<b>International Corres. Schools</b> ..... 6	<b>Otto Gas Engine Works</b> ..... 2	<b>Smith, R. B.</b> ..... 20
<b>Bertach &amp; Co.</b> ..... 32	<b>De Kalb, Courtenay</b> ..... 6			<b>Smith, R. B.</b> ..... 20
<b>Bealy, Chas. H., &amp; Co.</b> ..... 46	<b>De Loach Mill Mfg. Co.</b> ..... 27	<b>J</b>	<b>P</b>	<b>Smith, R. B.</b> ..... 20
<b>Bethlehem Iron Co.</b> ..... 2	<b>Deming Co.</b> ..... 40	<b>Jameson Fire-Resisting Paint Co.</b> ..... 2	<b>Pancoast, Henry B., &amp; Co.</b> ..... 39	<b>Smith, R. B.</b> ..... 20
<b>Bierce, Wm. W.</b> ..... 25	<b>Dempwolf, C. H., &amp; Co.</b> ..... 30	<b>Janney &amp; Steinmetz</b> ..... 45	<b>Pancoast Ventilator Co.</b> ..... 33	<b>Smith, R. B.</b> ..... 20
<b>Big Four Route</b> ..... 42	<b>Detroit Mill Supply Co.</b> ..... 13	<b>Jeffrey Mfg. Co.</b> ..... 37	<b>Patrick &amp; Carter Co.</b> ..... 45	<b>Smith, R. B.</b> ..... 20
<b>Big Union Mining Co.</b> ..... 113	<b>Dietz, Schumacher &amp; Boye</b> ..... 12	<b>Jenkins Bros.</b> ..... 46	<b>Patitz, A. M.</b> ..... 6	<b>Smith, R. B.</b> ..... 20
<b>Bing, J. Howard</b> ..... 18	<b>Diaston, Henry, &amp; Sons</b> ..... 29	<b>Jewell Belting Co.</b> ..... 11	<b>Paully Jail Bldg &amp; Mfg. Co.</b> ..... 32	<b>Smith, R. B.</b> ..... 20
<b>Bird, Wm. M., &amp; Co.</b> ..... 2	<b>Dixon, Jos., Crucible Co.</b> ..... 46	<b>Johnston</b> ..... 24	<b>Paxson, J. W., &amp; Co.</b> ..... 8	<b>Smith, R. B.</b> ..... 20
<b>Birmingham Boiler Works</b> ..... 9	<b>Dockham, C. A., &amp; Co.</b> ..... 43	<b>Johnson Tool Co.</b> ..... 18	<b>Peacock, George</b> ..... 4	<b>Smith, R. B.</b> ..... 20
<b>Black Mfg. Co.</b> ..... 45	<b>Dodson, E. F., &amp; Co.</b> ..... 6	<b>Joseph, Isaac, Iron Co.</b> ..... 26	<b>Peck-Hammond Co.</b> ..... 21	<b>Smith, R. B.</b> ..... 20
<b>Bliss Co., E. W.</b> ..... 32	<b>Donnelly, J. C.</b> ..... 27		<b>Penberthy Injector Co.</b> ..... 46	<b>Smith, R. B.</b> ..... 20
<b>Block-Pollak Iron Co.</b> ..... 26	<b>Dopp, H. Wm., &amp; Son</b> ..... 37	<b>K</b>	<b>Penn Telephone Co.</b> ..... 45	<b>Smith, R. B.</b> ..... 20
<b>Boomer &amp; Boschert Press Co.</b> ..... 23	<b>Dow Wire Works Co.</b> ..... 33	<b>Kansas City, Pittsburg &amp; Gulf R. R.</b> ..... 43	<b>Perkins Mfg. Co.</b> ..... 26	<b>Smith, R. B.</b> ..... 20
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<b>Boston Belting Co.</b> ..... 11	<b>Draper Machine Tool Co.</b> ..... 12	<b>Kansas &amp; Texas Coal Co.</b> ..... 8	<b>Philadelphia Bourse</b> ..... 9	<b>Smith, R. B.</b> ..... 20
<b>Bowes, F. K.</b> ..... 25	<b>Dufur &amp; Co.</b> ..... 12	<b>Keeler, E., Co.</b> ..... 16	<b>Philadelphia Eng. Works, Ltd.</b> ..... 16	<b>Smith, R. B.</b> ..... 20
<b>Bowman, C. A.</b> ..... 23	<b>Dunlap, Frank M.</b> ..... 6	<b>Kelley, James A.</b> ..... 6	<b>Phila. Machine Screw Works</b> ..... 20	<b>Smith, R. B.</b> ..... 20
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<b>Bradford Mill Co.</b> ..... 12		<b>Kilburn, Lincoln &amp; Co.</b> ..... 35	<b>Piney Woods Inn</b> ..... 43	<b>Smith, R. B.</b> ..... 20
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<b>Bradstreet Company</b> ..... 24	<b>Easton &amp; Burnham Machine Co.</b> ..... 36	<b>Knox, Henry E., Jr.</b> ..... 6	<b>Pittsburgh Plate Glass Co.</b> ..... 33	<b>Smith, R. B.</b> ..... 20
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<b>Broomell, Schmidt &amp; Co.</b> ..... 18	<b>Empire Glass &amp; Decoration Co.</b> ..... 35	<b>Lane Manufacturing Co.</b> ..... 27	<b>Pomona Terra Cotta Co.</b> ..... 44	<b>Smith, R. B.</b> ..... 20
<b>Brown, A. &amp; F.</b> ..... 19	<b>Empire Paint &amp; Roofing Co.</b> ..... 2	<b>Lang, S. Logan</b> ..... 24	<b>Pope Mfg. Co.</b> ..... 42	<b>Smith, R. B.</b> ..... 20
<b>Brown Hoisting &amp; Con. Mch. Co.</b> ..... 22	<b>English Supply &amp; Engine Co.</b> ..... 16	<b>Lawrence Cement Co.</b> ..... 22	<b>Porter, H. K., &amp; Co.</b> ..... 13	<b>Smith, R. B.</b> ..... 20
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	<b>Fidelity &amp; Deposit Co. of Md.</b> ..... 23	<b>Lovick, Hugh J.</b> ..... 23	<b>Q</b>	<b>Smith, R. B.</b> ..... 20
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<b>Cameron, A. S., Steam Pump Wks.</b> ..... 40	<b>Fogg, A.</b> ..... 25	<b>Lunkenheimer Co.</b> ..... 46		<b>Smith, R. B.</b> ..... 20
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Ads. marked thus \* appear every other week.  
 Ads. marked thus † appear in first issue of each month.  
 Ads. marked thus ‡ not in this issue.